

# COMMERCE

APRIL 1956 35c

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Pioneers in Color — See page 5

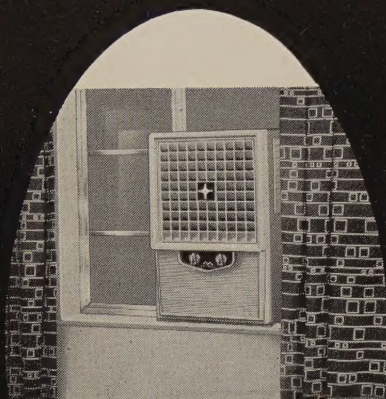
What's Ahead in Next Ten Years?

Poor Handwriting Costs Money

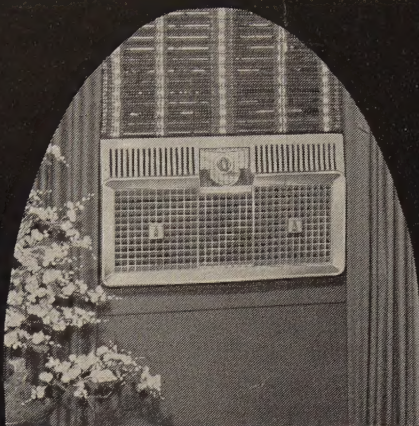


# EFENGEE has what every room dreams of:

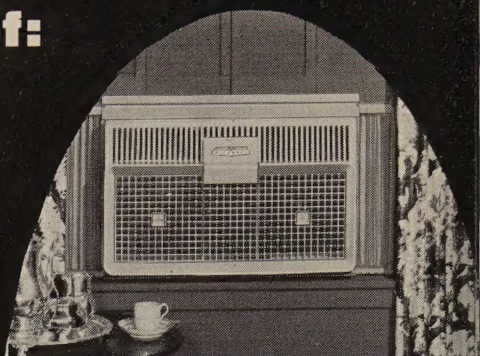
## MITCHELL AIR CONDITIONING!



**Casement window air conditioner:** Another Mitchell achievement! Full capacity operation! Easily installed within window; 5 levels of comfort ( $\frac{3}{4}$  and 1 H.P.).



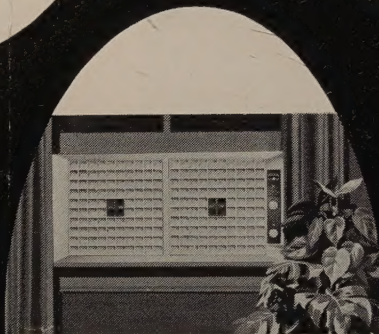
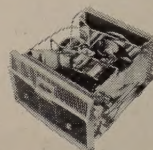
**New Mitchell 7 1/2 Amp.  $\frac{3}{4}$  H. P. Room Air Conditioner:** Efengee proudly displays this revolutionary new "plug-in" unit! No re-wiring necessary; no special installation; King size cooling; (draws no more amperes than ordinary household toaster)—Just plug it in!



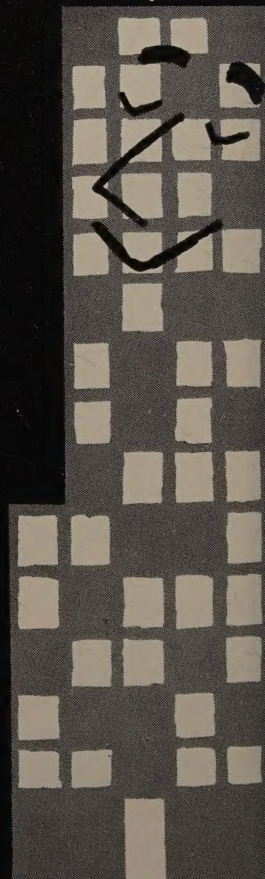
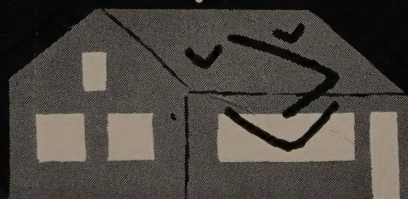
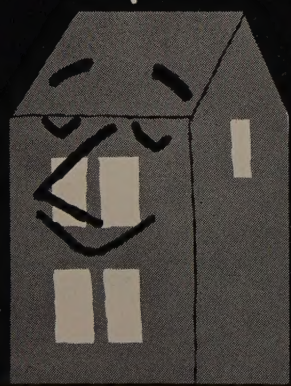
**Deluxe Series:** sensational new low price for a high quality air conditioner. 11% cooling bonus; 20 Direction-air delivery, accessory remote wall thermostat ( $\frac{1}{2}$ ,  $\frac{3}{4}$ , 1, 1 1/2 H.P.)

**Custom Series:** Weath'r-Dial allows 7 levels of comfort; reverse cycle or resistance heating; automatic thermostat; 13% cooling bonus at no extra cost; ( $\frac{3}{4}$  and 1 H.P.)

**Imperial Series:** most powerful room air conditioner ever made; expando-mount; air flow modulation; cools two rooms; resistance heating ( $\frac{3}{4}$ , 1, 1 1/2, 2 H.P.)



**Mitchell's new "Pancake":** The world's most versatile air conditioner; easy installation . . . anywhere (even through the wall!) This multi-purpose room air conditioner is only 15 1/2" thin, ( $\frac{3}{4}$  and 1 H.P.).



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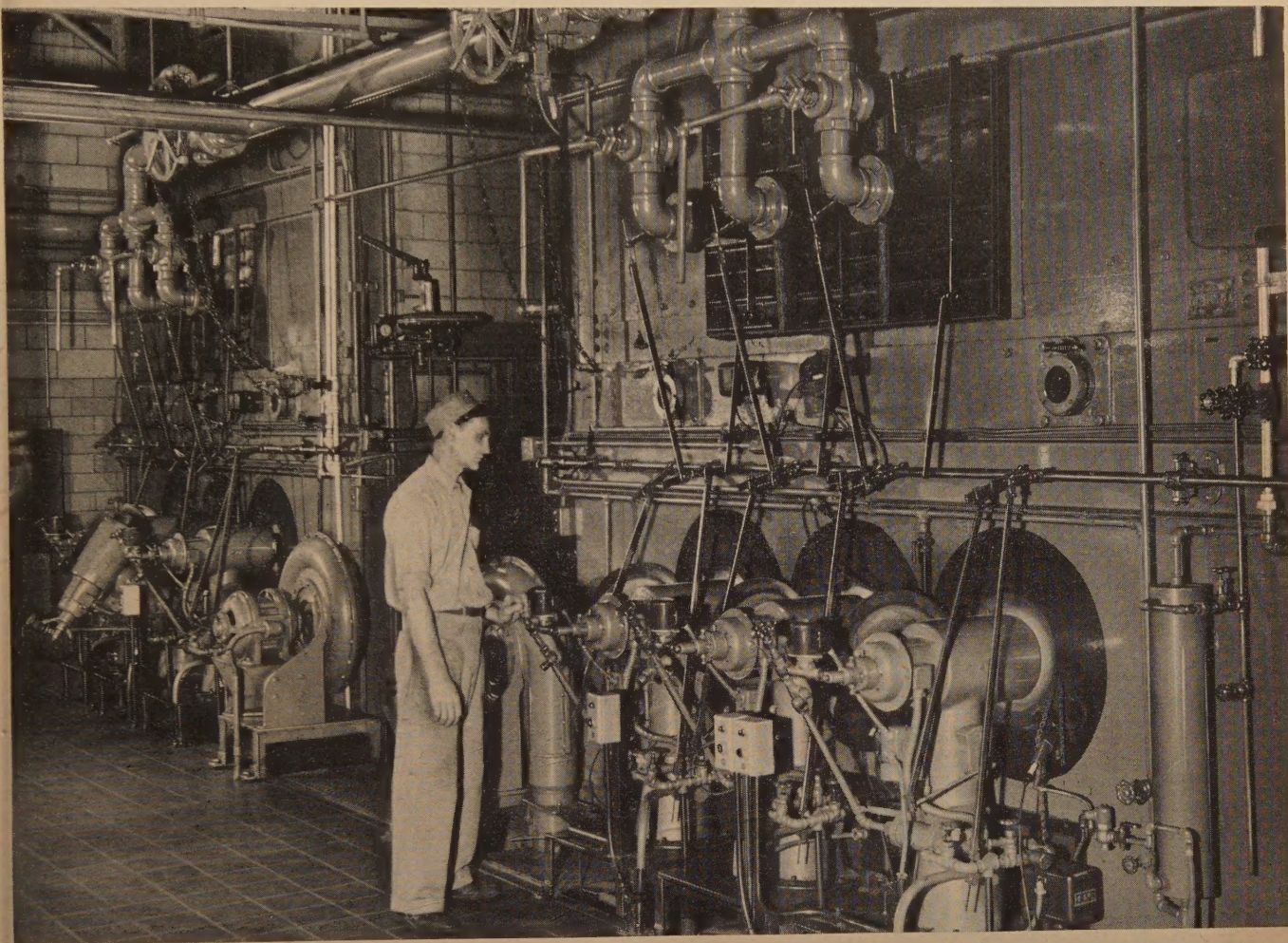
Waukegan Branch: **INTERSTATE ELECTRICAL SUPPLY CO.**

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# GAS At Work for Chicago's Industry



In the main boiler room of the Kraft Foods Company, 500 N. Peshtigo Court, Chicago, there are two 300 H. P. water tube boilers (also two 250 H. P. boilers in the adjacent plant boiler room) in which gas is being used on an interruptible basis to generate steam for processing and general heating purposes.

On Chicago's near north side, facing the Outer Drive and looking out over Lake Michigan, are the general offices and international headquarters of the Kraft Foods Company. A complete line of Kraft salad dressing products and Kraft's Parkay margarine is produced at this plant for general distribution throughout the midwestern states.

Kraft is one of the many large industrial customers in Chicago who use gas on an interruptible rate basis for boiler fuel. To avail themselves of this attractive rate, customers who qualify must, among other requirements, have an alternate stand-by fuel on hand and be ready to switch from gas within 30 minutes upon notification from Peoples Gas to do so.

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## statistics of...

# Chicago Business

	February, 1956	January, 1956	February, 1955
Building permits, Chicago	1,893	1,958	650
Cost	\$ 21,769,809	\$ 25,869,385	\$ 16,055,500
Contracts awarded on building projects,			
Cook Co.	2,705	2,316	1,844
Cost	\$ 63,540,000	\$ 75,583,000	\$ 43,020,000
(F. W. Dodge Corp.)			
Real estate transfers, Cook Co.	6,893	6,946	6,723
Consideration	\$ 4,495,001	\$ 5,233,656	\$ 6,017,983
Bank clearings, Chicago	\$ 4,369,829,491	\$ 4,949,916,397	\$ 3,798,124,946
Bank debits to individual accounts:			
7th Federal Reserve District	\$25,033,000,000	\$29,339,000,000	\$22,086,000,000
Chicago only	\$12,437,480,000	\$15,160,811,000	\$11,235,042,000
(Federal Reserve Board)			
Bank loans (outstanding) Chicago			
weekly reporting banks	\$ 3,371,000,000	\$ 3,427,000,000	\$ 2,871,000,000
Midwest Stock Exchange transactions:			
Number of shares traded	2,225,000	2,319,340	1,829,000
Market value of shares traded	\$ 76,820,039	\$ 83,606,765	\$ 76,205,932
Railway express shipments, Chicago area	876,991	876,549	790,148
Air express shipments, Chicago area	71,478	74,988	63,452
L.C.L. merchandise cars, Chicago area	17,475	17,661	16,974
Electric power production, kwh., Com.			
Ed. Co.	1,583,289,000	1,660,564,000	1,385,800,000
Industrial gas sales, therms., Chicago	16,610,511	17,474,386	14,555,025
Steel production (net tons),			
Metropolitan area	1,818,000	1,943,700	1,589,100
Revenue passengers carried by Chicago			
Transit Authority lines:			
Surface division	41,233,708	42,241,828	39,870,034
Rapid transit division	9,504,627	9,640,242	8,751,321
Postal receipts, Chicago	\$ 12,213,492	\$ 11,778,127	\$ 11,577,079
Air passengers, Chicago Airports:			
Arrivals	285,606	340,933	266,896
Departures	311,583	364,209	285,958
Consumers' Price Index (1947-49=100)			
Chicago	118.3	118.1	117.1
Receipts of salable livestock, Chicago	468,082	595,754	426,083
Unemployment compensation claimants,			
Cook and DuPage counties	30,473	31,721	75,106
Families on relief rolls:			
Cook County	26,582	26,418	29,179
Other Illinois counties	16,736	16,045	19,476

## May, 1956, Tax Calendar

Date Due	Tax	Returnable to
1	Renew city business licenses which expired April 30, 1956	City Collector
1	First installment of 1955 Real Estate Taxes becomes delinquent and subject to 1% per month penalty thereafter	County Collector
1	Personal Property Tax for 1955 becomes delinquent and subject to 1% per month penalty thereafter	County Collector
15	Illinois Retailers' Occupation Tax, MROT and Use Tax return and payment for month of April	Dept. of Revenue (Ill.)
15	If total Income and Social Security Taxes (O. A. B.) withheld from employe plus employer's contribution withheld in April exceed \$100, pay amount to	Authorized Depository



# COMMERCE

**Magazine**

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**April, 1956**

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**Number 3**

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**in this**

**issue . . .**

What's ahead for business and the general economy in the next ten years? Sumner H. Slichter, eminent economist, tells what he thinks will happen. His article starts on page 13.

American business lost more than \$70 million last year because of poor penmanship. What can be done about making adults write legibly so that time and money are not lost because of their many different methods of writing the standard 26 letters and 10 figures? The article beginning on page 16 by Milton Golin reveals what some companies are now doing to eliminate illegible handwriting.

There are rumors heard from time to time that Chicago is no longer the meat capital of the world. Anthony and Marietta Marcin, in their article, page 20, are happy to report that the rumors aren't true. Chicago is still the principal meat market of the nation and is doing things to maintain its leadership.

Ever see a television show from directly behind the performers?



That's the view on our cover. It's the well-known Kukla, Fran, and Ollie show of black and white television, a field that they helped pioneer. Now they are doing the same thing with color television. Here they are giving a preview performance for Jules Herbuveaux, to the left of the color television camera, and Harold A. Renholm on the right. Mr. Herbuveaux is a vice president of the National Broadcasting Company and the General Manager of WNBQ, the local NBC station which is converting all of its locally telecast programs to color this month. Mr. Renholm is the midwest regional manager for the Radio Corporation of America, owners of NBC.

The pretty gal on our cover, Fran Allison, also appears above with Burr Tillstrom, the creator and voice of the "Kuklapolitans."

Ollie, the dragon in the center of our cover picture, is telling Kukla that WNBQ is the first station in the nation to telecast all of its programs in color. It's another first for Chicago. For further details see the article starting on page 15.





## “People’s lives depend on our castings,” says Nick Odorisio

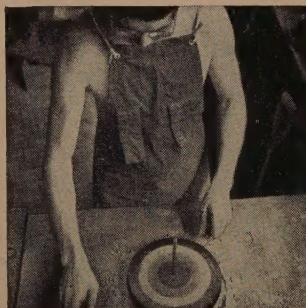
**“And we depend on Cities Service Core Oil,” continues this well-known foundryman at Kimball Brothers Company.**

If you operate a foundry, there’s a chance you’ve heard of Nick Odorisio. Now with Kimball Brothers Company of Council Bluffs, Iowa, Nick has devoted the last 45 years to the foundry business, guiding many a mid-west foundry to smoother operation.

“Here at Kimball Brothers,” says Nick, “there’s probably less room for error than in almost any other foundry operation . . . for we make freight and passenger elevators ranging up to 30,000 pounds capacity, and people’s lives literally hang on the quality of our castings.

“Naturally, that requires perfect cores and perfect core oil . . . and that’s why we rely on Cities Service Delco #36. I’ve been in the foundry business since I was 15 years old and tested a lot of core oil, but Cities Service Delco #36 gives more trouble-free performance than any other oil I’ve ever seen. The oil is uniform, prevents trouble with gas which could produce flaws, and allows practically no breakage of cores. I’d never hesitate to recommend Delco #36.”

For more information about this unique core oil which Mr. Odorisio praises so highly, talk with a Cities Service Lubrication Engineer. Or write: Cities Service Oil Company, 20 North Wacker Drive, Chicago 6, Illinois.



**Getting to the Core of the Situation.** Kimball Brothers makes cores for elevator castings ranging from a few ounces to 1500 pounds. But there’s almost never any breakage or flaws, thanks to Cities Service Delco #36 Core Oil.

**Complicated Casting Made Without Complications** is displayed by Assistant Foreman Richard Flowers. Like Nick Odorisio, he combines expert knowledge with extreme pride of craftsmanship and Kimball Brothers’ castings reflect it.



**CITIES SERVICE**  
QUALITY PETROLEUM PRODUCTS



# The Editor's Page

## ***Ouch!***

The complexities of compliance with modern governmental regulations are sometimes bewildering, to put it mildly. The Labor Department recently issued a "Handy Reference Guide to the Fair Labor Standards Act" which well illustrates this unfortunate fact.

We had always thought of the Fair Labor Standards Act as a simple admonition to employers to pay a dollar an hour and time-and-a-half for overtime.

Not so. The Handy Reference Guide consists of 16 pages of provisions, exemptions, definitions and record-keeping requirements. Some of the sections concern "How to Compute Overtime Pay," "What 'Hours Worked' Means," "Recovering Back Pay."

At the end of the booklet just as the reader is beginning to think he knows what the Act requires, there is a statement to the effect that this guide "is intended only to give brief information about the principal provisions of the Act." Specific requirements "depend on the facts in each case."

Then for those who need to know exactly where they stand in order to stay in business, there is a list of 16 nontechnical booklets, 19 regulations, 15 interpretive bulletins, two posters and three laws.

These are billed as "available without cost" — that means the taxpayer foots the bill for printing and distributing them.

## ***The Importance of People***

Frank Elliott, president of Crane Company, made a unique departure from custom in his letter accompanying Crane's 1955 annual report. The president's letter in the usual annual report is devoted to financial and operating facts about a company. Mr. Elliott left this to other parts of Crane's latest report and devoted his attention to the people who comprise his company, saying:

"A company's progress, it seems to me, depends not so much upon physical plant and procedures and the choice of product as upon the personnel of the organization . . .

"The most vital element in *all of industry* is people. The factories must be built well, the machines must be modern and efficient but these are still only the physical parts of a company. They are the arms and legs, hands and feet of the company and should be strong and skilled. But to carry the analogy further, it is a man's mind — his attitude, his enthusiasm and his integrity — that controls his performance. And it is the mind and attitude and character and integrity of a company that shape its progress.

"This all depends on the personnel of the organization. You can buy machines with money but you hire

people not just with salaries and wages but with encouragement, appreciation and other intangible facets of human relations."

Most successful modern managements base their personnel policies on the philosophy Mr. Elliott expresses. It is a step forward, however, to have a leading industrialist articulate the philosophy where both the employees and stockholders of his company can read it.

## ***Pity the Penmen***

A writing fluid that cannot be removed from paper even though made invisible by water damage or the use of an eradicator has just been introduced by W. A. Sheaffer Pen Company. This new trick is accomplished by incorporating in the ink a luminescent additive which is impervious to eradication or water. The additive grips the paper even when all other elements of the ink are removed to make the writing disappear. When exposed to ultraviolet light the additive glows, showing the original writing at full strength.

This ingenious development is going to make it tough on the "penmen", those overzealous students of chirography who specialize in altering the amounts on checks and notes and doctoring other legal documents.

## ***Sharing the Wealth***

A wage-profit study made by the National Association of Manufacturers reveals some striking facts. Between 1950 and 1955, wages and salaries increased by 39 per cent in this country. The 1955 figure was an all-time high — \$124 billion, exclusive of government payrolls — and resulted from the greatest number of people working at the highest pay rates in our history.

In the same period of time, however, the profits of corporate industry showed a slight decrease from \$22.1 billion in 1950 to \$21.8 billion in 1955.

This doesn't mean that industry at large is complaining about the profit picture. But it does emphasize something everyone in the country should know — that, in a free, competitive economy, the greatest rewards of progress go to the masses of working people.

Actually, in typical industries, profits are among the smaller items in the financial statements. They are always dwarfed by payrolls — and in some cases are far below taxes.

To put it another way, capitalism has done an extraordinary job of sharing the wealth!

*Alan Sturdy*





## SIRLOIN ROOM

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## Here...There... and Everywhere

• **Meat by Mail** — Pfalzer Brothers, Inc., 939 W. 37th Place, Chicago, Illinois, has launched a meat-by-mail project. It offers nationwide home delivery service of portion-ready cuts of meats and shelf specialties such as French onion soup and Portuguese anchovies in specially designed folding cartons.

Pfalzer's order form lists 151 different items. The minimum order is 50 pounds. The entire order is blast-frozen, the forced cold air method of quick-freeze used by packers, and then placed in a master corrugated box for insulation needed for shipping. Morris Paper Mills, Chicago, Illinois, make the required cartons.

• **Marking Stainless Steel** — Development of the first successful process for permanently coating and integrally marking the surface of stainless steel has been announced by Ateenate, Inc., 15 Chardon Street, Boston, Massachusetts. The surface-processing technique, utilizing a new photochemical process, produces a hard, highly ductile, non-crystalline structure which is in many ways more resistant to chemical and physical damage than the unprocessed metal. It is expected to be particularly effective in the aircraft industry and can also be used to reproduce photographs on stainless steel up to 150 screen.

• **Exchange Students** — More than 4,600 persons participated in exchange programs administered by the Institute of International Education during the past year. A total of 2,962 foreign students studied in 526 U. S. educational institutions during the present academic year and 1,417 Americans are studying abroad. For private and public sponsors, the Institute administered projects which "exchanged" 268 specialists, trainees and leaders between the

United States and 38 different countries.

• **The Disappearing Kitchen** — The kitchen as a separate room is as outmoded as the wash tub and corrugated scrub board and is therefore disappearing from the American home. Tomorrow's kitchen will have the beauty of today's living room and be a part of a single, large family-living area, predicts Frank Carloti of the Dave Chapman Industrial Design office.

• **Airborne Television** — An airborne military television system that will enable a battle commander to watch several combat sectors is being built and tested by Admiral Corporation for the U. S. Army Signal Corps. With the system a battle commander could conceivably direct military operations with the aid of a panel of TV screens in his command post, each screen showing a different sector of fighting 25 to 30 miles away as viewed from a camera in a plane 1,000 feet over the action.

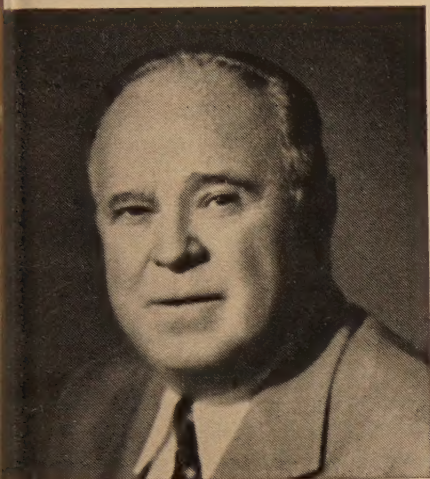
• **Retail Pork Prices** — Retail pork prices have been at the lowest level since 1950 with the composite average retail price running some 13 cents a pound less than at the same time in 1954 according to the National Live Stock and Meat Board. Pork was eaten at the rate of 66 pounds per person in 1955, an 11 per cent increase over 1954. Consumption of all meats reached 161 pounds per capita in 1955. Beef accounted for 81 pounds of this.

• **Man-made Rubber** — Man-made rubber having the same molecular structure as tree rubber will be produced in a new plant being built at Avon Lake, Ohio, for Goodrich-Gulf Chemicals, Inc. Large truck tires

(Continued on page 31)



# "Why not let competition work in transportation too?"



*"Every man and woman in this nation stands to benefit if all forms of transportation are permitted to price their services in fair and open competition."*

"Contrary to a widely accepted belief, transportation is a highly competitive field. People buy transportation like they buy anything else. They pick and choose the one that offers them the most advantages. Monopoly cannot thrive in a climate like that.

"Yet, for years, Government regulatory rules have been out of step with the facts as they exist in the transportation business. Old, out-dated laws restrict common carriers (those transportation companies whose services are available for all) from joining fully into open competition for business.

"There is encouragement in the recent report of the President's special Cabinet Committee. This Committee, assisted by a working group of unbiased transportation experts, studied the entire picture of federal transportation policies and problems. Their report included two clearly stated recommendations.

"First, they recommended that Congress adopt a new transportation policy for the country, based on equality of competitive opportunity, with a fair deal for all and favors to none.

"Second, they proposed that common carriers be given greater freedom, short of discriminatory practices, of pricing their services.

"These principles are no more or less than the rights other competitive fields of endeavor enjoy in this country—no more or less than the ground rules of free

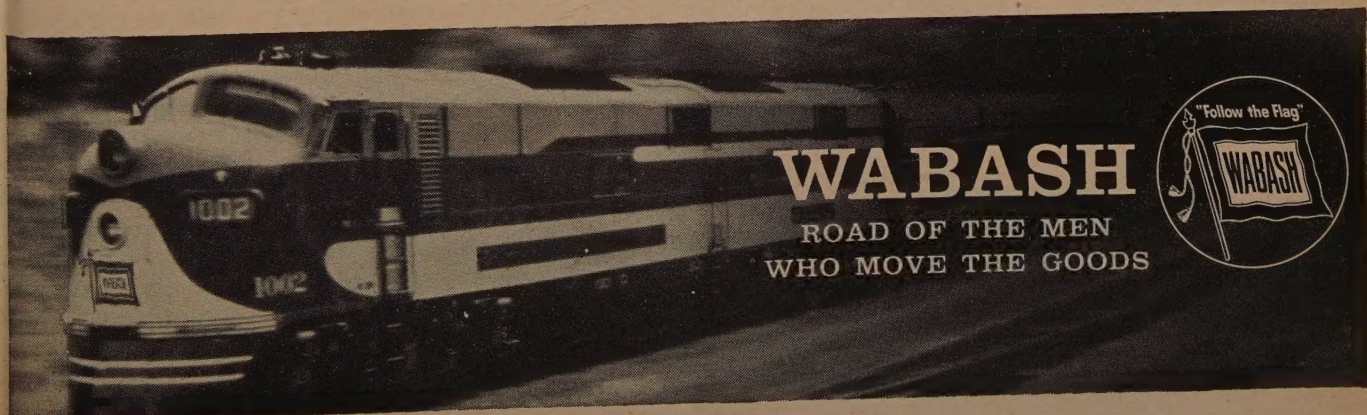
enterprise that has given this nation and its people the highest living standards in the world, at the least possible cost.

"New legislation, based on the President's Cabinet Report, is now in Congress. Its passage is in the best interest of every man and woman in America.

"For this legislation gives each of the different forms of transportation equal opportunity to do the jobs it is best qualified to do, at the lowest reasonable cost. It does not give railroads any privileges that other types of transportation don't have now or would get.

"The result—the inevitable result—would be more efficient, more economical service to businessmen and the consuming public, who, after all, stand to benefit most."

*Arthur K. Atkinson*  
PRESIDENT, WABASH RAILROAD





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## Trends . . . in Finance and Business



• **New State Taxes** — The new "purchase tax" enacted in Pennsylvania points up the growing ingenuity of revenue-hungry state governments according to a Commerce Clearing House report.

Actually a sales tax in reverse, the new Pennsylvania tax is levied on a wide range of specified taxables from building materials to live fish. Anything not specifically taxed is exempt. Conversely, in all the other 32 states which levy a general sales tax, personal property not specifically exempt is taxed.

The latest entry in the new-tax sweepstakes follows, by just a couple years, Michigan's experiment with a "business receipts" tax, the first of its kind in this country. It was patterned on a measure used in Japan during the American occupation after World War II.

The Michigan levy has attributes of a gross income tax, a net income tax and a sales tax. It is imposed not only on an ultimate transaction, like a sales tax, but is levied as well on manufacturers and wholesalers. Indiana's gross income tax and West Virginia's business and occupation taxes are the nearest counterparts, as they are also imposed on all sorts of transactions, the CCH report says.

In addition to the big broad-based revenue producers, the states have been experimenting with a variety of other special levies. For example, a special tax is imposed on soda pop in many jurisdictions. Pennsylvania has just joined a growing number of states which place a tax on occupancy of hotel rooms.

Other special levies included in the CCH report are a tax on sheep and goats in Nevada, on shrimps in Louisiana, on antique motor vehicles in a number of states, and on city bus fares in Mississippi. One ingenious legislator introduced a

bill, now pending in Mississippi, which would levy a special \$500 tax on hotels which sell ice to guests.

• **D-C Makes Comeback** — In connection with General Electric's announcement of its new line of Kinematic direct current motors and generators, the company called attention to the fact that the demand for direct current equipment, popularly thought to be old-fashioned and obsolete, has far exceeded that for alternating current motors since the end of World War II. From 1947 through 1954, purchases of d-c motors increased 85 per cent while the increase for all types of electric motors was 20 per cent.

The increasing demand for the d-c motor, said P. D. Ross, manager of marketing for GE's direct current motor and generator department, reflects the fact that it is the best universal source of precisely controlled adjustable speed. It will operate over wide speed ranges, and accelerate and decelerate rapidly. Perhaps the most important characteristic, Ross said, is the ability of the motor to accept directions and obey commands of sensitive electronic, magnetic and rotomagnetic brains. He declared that if all the processes which could benefit from adjustable speed were equipped with d-c drives, the productivity of American Industry could be increased conservatively ten per cent. Ross added that while it is expected that purchases of electrical equipment in general will double in the next ten years, purchases of direct current equipment will continue to expand at a rate substantially higher than that for the electric industry as a whole. To correct the impression that d-c is old fashioned, expensive and obsolete, General Electric will soon



publish a book entitled "Why DC," written in layman's language.

• **Mass Prosperity** — The average American's standard of living has tripled in the past century, though he has to work only about half as hard to earn it, reports the family economics bureau of Northwestern National Life Insurance Company. Measured in constant 1955 dollars, annual disposable personal income per capita amounted to \$550 in 1850, \$735 in 1900, \$1,500 in 1950, and \$1,630 in 1955, or \$4,890 for a household of three persons.

The bureau attributes the spectacular gains in mass prosperity and well-being to the amazing rise in farmer efficiency and the resulting shift of U.S. population away from farming. In 1850, two-thirds of the population lived on farms and produced one-third of the nation's total output of goods and services. Today less than one-seventh of the population live on farms and produce only one seventeenth of total gross national product.

This means that six-sevenths of the population (including close to 90 per cent of the "gainful workers") are now producing other goods and services than raw farm products. These "other goods and services" give wealth and variety to the American standard of living. They now amount to 16 times the value of farm output instead of amounting to only twice its value as in 1850.

Farm "gross national product" expanded from just under a billion dollars' worth in 1850 to \$21.5 billions in 1954 and total gross national product meanwhile multiplied from less than \$3 billion in 1850 to \$360.5 billion in 1954.

• **Aluminum Growth** — The American automobile of 1980 will contain 200 pounds of aluminum — nearly six times as much as 1956 models — and by 1980, aluminum cans will make up five to ten per cent of the world canning industry's output according to a report of the Aluminum Company of Canada.

The average aluminum content of American automobiles went from 30 pounds last year to 35 this year, and should reach 75 pounds by 1960 and over 200 pounds by 1980. At the current U. S. production rate of

(Continued on page 31)

# NATIONWIDE SERVICE for Santa Fe Shippers



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— Indicates principal Santa Fe Rail Lines

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Santa Fe freight men know their business. They know your territory and ours — and your local freight problems, too. Because these men believe in giving service, you will find it worth while to call them about your freight shipments.

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Amarillo, Tex.  
Atchison, Kan.  
Atlanta, Ga.  
Bakersfield, Cal.  
Beaumont, Tex.  
Boston, Mass.  
Buffalo, N. Y.  
Chanute, Kan.  
Chicago, Ill.  
Cincinnati, O.  
Cleveland, O.  
Colorado Springs, Colo.  
Dallas, Tex.  
Denver, Colo.  
Des Moines, Ia.  
Detroit, Mich.  
El Paso, Tex.  
Fort Madison, Ia.  
Fort Worth, Tex.  
Fresno, Cal.  
Galveston, Tex.  
Houston, Tex.  
Hutchinson, Kan.  
Indianapolis, Ind.  
Kansas City, Mo.  
Long Beach, Cal.  
Los Angeles, Cal.  
Lubbock, Tex.  
Memphis, Tenn.  
Mexico City, Mex.  
Milwaukee, Wis.  
Minneapolis, Minn.  
Monterrey, Mex.  
New Orleans, La.  
New York, N. Y.  
Oakland, Cal.  
Oklahoma City, Okla.  
Peoria, Ill.  
Philadelphia, Pa.  
Phoenix, Ariz.  
Pittsburgh, Pa.  
Portland, Ore.  
Pueblo, Colo.  
Sacramento, Cal.  
St. Joseph, Mo.  
St. Louis, Mo.  
Salt Lake City, Utah  
San Angelo, Tex.  
San Antonio, Tex.  
San Bernardino, Cal.  
San Diego, Cal.  
San Francisco, Cal.  
San Jose, Cal.  
Santa Barbara, Cal.  
Seattle, Wash.  
Stockton, Cal.  
Tempe, Tex.  
Topeka, Kans.  
Tulsa, Okla.  
Washington, D. C.  
Wichita, Kans.  
Winston-Salem, N. C.







# What's Ahead in the Next Ten Years?

By SUMNER H. SLICHTER

**What will the needs of industry be? Will there be enough skilled help? Is a major recession likely?**

THE outlook for 1956 is for little change in the level of production during the first three quarters of the year and for a rise in production in the fourth quarter. Present indications are that the fourth quarter will be the best quarter of the year. Each of the first three quarters will be better than the corresponding quarter of 1955, but the level of production will not be much higher or lower than in the last quarter of 1955.

What is the medium-term outlook for the economy? Both the productive capacity of the economy and the demand for goods have been growing rapidly, and they will continue to grow at a substantial rate. Productive capacity will grow at an average annual rate of around 3.5 per cent to 4 per cent a year—a little more than one per cent a year because of the increase in the labor force and around 2.5 per cent to almost 3.0 per cent a year because of the growth in output per manhour.

These rates of growth would make

the gross output in 1965, in terms of present prices, about \$535 billion to \$570 billion. The present year will be the first year in which the gross national output will reach \$400 billion. The \$500 billion mark will be crossed sometime in 1962 or 1963. The demand for goods will grow a little faster than the output, producing a slow rise in the price level.

## **The Labor Force**

Capacity to produce will depend largely upon the growth in the size of the labor force and the gain in output per manhour. The labor force will probably increase faster in the next ten years than in the last ten years because the effect of the recent upsurge in population upon the labor force has not yet been felt. It is true that in the last eight years the growth in the labor force has been fairly rapid (about 850,000 a year on the average) in spite of the drop in the number of births in the thirties.

The growth of the labor force has been augmented by the rise in the proportion of population of 14 years of age and over in the labor force—it was 58 per cent in 1955 in comparison with around 55.5 per cent before the war. This growth in the proportion of adults in the labor force is mainly due to the growing proportion of women in the labor

force. Since 1948 about 64 per cent of the rise in the labor force has been women, and only 36 per cent men.

The big growth in the labor force will come after 1960. Between 1950 and 1955 population of 14 years of age or more, from which the labor force is drawn, increased 6.6 million. Between 1955 and 1960, the increase will be 7.5 million, but between 1960 and 1965 it will be about 10.8 million. The proportion of women in the labor force will undoubtedly continue to rise and to augment the labor force, because this is a long-term trend that does not seem to have exhausted itself. Between 1940 and 1955 the proportion of women in the labor force grew from a little more than one-fourth to a little more than one-third. The rate of increase has been slower since 1950 than before, but it is continuing, especially among older women. Between 1950 and 1955, the proportion of women from 45 years of age to 65 who are in the labor force increased from 33.3 to 38.0 per cent. In each year the figures are for April. In 1940 only 20.1 per cent of women 45 to 65 years of age were in the labor force.

Output per manhour has been growing at the rate of roughly 2.5 per cent a year. Measurement of the growth of output involves many problems, and the results depend

This article is a digest of an address delivered by the author, an eminent economist, before the Associated Industries of Cleveland.

← The proportion of women in the labor force will continue to rise and to augment the labor force. At left, a lady worker, one of the many in industry, handles tin plate at Inland Steel Company



upon just what are measures—for example, the weight given new industries and old ones. As a general rule, the rate of growth of output has been understated. The rate of output per manhour will probably grow faster in the next ten years than in the last ten.

One reason for this conclusion is that the growth of output has been held back by the shortage of engineers. Engineers are scarce today in spite of the fact that the number of engineers in the country has been growing rapidly—from 260,000 in 1930 to 850,000 in 1954. This shortage has limited the rate at which we could put into use the technical knowledge that we now possess. But engineering school enrollments are rising. They are almost 50 per cent larger in the present year than in 1951-52. Graduations from engineering schools last year were about 50 per cent larger than before the war, and by 1958 they are expected to increase another 50 per cent. For the entire ten years 1945 to 1954 inclusive, engineering graduates (Bachelor's degrees only) were 256,000. The U. S. Office of Education estimates that in the next ten years the number will be 360,000, a rise of 40 per cent. This estimate may well be exceeded—particularly if the country (and industry especially) decides that it needs to be exceeded.

### **Output Per Man-hour**

The growth in output per man-hour will be accelerated by the rapid growth of our new industry of discovery. The research and development work in American industry might well be regarded as new industry—an industry engaged in the production of knowledge. It is one of the most rapidly growing industries and undoubtedly the most productive one. The labor force of scientists and engineers engaged in research has increased from about 87,000 in 1941 to 122,000 in 1946, and 192,000 in 1953.

In the five years from 1948 to 1953 the increase in the number of engineers and scientists engaged in research was nearly 12,000 a year, or 1,000 a month. It should be possible to raise this rate of growth. The number of scientists has been increasing rapidly. It doubled between 1930 and 1940 (increasing from 46,000 to 92,000) and more than

doubled again between 1940 and 1954.

Enrollments in institutions of education are expected to increase from around 2.5 million at present to 3.7 million by 1964, and graduations (bachelor's, master's, and doctor's degrees) from 313,500 in 1955 to 500,000 in 1965. Particularly important is the increase in the number of Ph.D.'s in science. The Ph.D. population of the country doubled from 12,000 in 1930 to 24,000 in 1940, and increased to 39,000 in 1950. The number of doctorates granted in science was almost 2.8 times as large in 1954 as in 1940 and about five times as large as in 1920. The U. S. Office of Education has issued pessimistic projections concerning the total number of Ph.D.'s to be awarded in the next ten years, holding that the number in 1965 will be less than in 1955.

### **Unrealistic Projections**

This estimated drop in the number of Ph.D.'s awarded reflects the belief that the present number of Ph.D. awards are abnormally high due to abnormally large numbers of bachelor's degrees awarded in the years just past. The projections of future Ph.D. awards is not realistic, because they do not take account of the enormous demand for Ph.D.'s or of the fact that most students are aware that men cannot go far in science without the training that a Ph.D. degree implies.

The industry of discovery will be an increasingly important dynamic influence in the economy. Every management will have to operate its enterprise with the knowledge that there is an ever-growing number of changes to which management must adjust the concern—that there is an ever-growing likelihood that competitors will be changing their products, that customers will be changing their needs, that suppliers will be offering new and different products.

Are there sufficient people of the needed ability to produce a large increase in the number of engineers and scientists? To this question the answer is an emphatic "Yes." About three-fifths of male college graduates score from 88 to 127 on the Army General Classification Test (100 = the average), and the average score of all college graduates is about 120. But among males with a score

of 118 or better, more than 55 per cent do not enter college. The number of college entrants among males could be increased by 52 per cent without taking anyone with an intelligence score not equal or better than equal to the average college graduate.

In other words, college entrance could be increased by more than 50 per cent without admitting a single male who would lower the average level of intelligence of the student body. Among males of quite superior intelligence (an A.C.G.T. score of 138 or better putting them in the top three per cent in intelligence), 43 per cent do not even enter college.

Although the increasingly rapid development of technology must be expected to raise substantially the productive capacity of the economy, one must expect the money demand for goods to grow even faster than the supply. There are several basic reasons for this belief. One is that technological change, by introducing new products and new methods, will increase enormously the demand for investment-seeking funds; a second is that technological change, by making present goods obsolete and by introducing new goods, will keep down the rate of saving; a third is that the competitive nature of consumption will keep down the rate of saving; and a fourth is that the bargaining power of trade unions will convert technological progress into higher wages causing it to produce higher money incomes rather than lower prices.

### **Demand Versus Output**

Under the conditions likely to exist during most of the next decade demand is quite likely to grow faster than output. A large number of new products and new methods are being introduced and large amounts of capital equipment will be needed to make them. Present planes are being replaced with turbo-jets and jets. Before the next decade is over, a large part of the present diesel locomotives will be replaced with gas turbine locomotives. Before the end of the decade, the United States will be doing a considerable export business in equipment for atomic reactors. The use of radiation is expected to bring about a near revolution in the chemical industry,

(Continued on page 26)





Artist's sketch of the new color studios as seen from the visitors' gallery which will be open to the public

# New Chicago First: All Color TV Station

By **TOM CALLAHAN**

**A**DD another to the growing list of Chicago "firsts." This month the city will be the first to have an all-color television station.

On April 15, WNBQ, the local outlet for the National Broadcasting Company, will start telecasting all of its live studio programs in color. It will be the only station in the nation doing so. Coupled with network color programs and local color showings, Chicago viewers will have

*(Continued on page 37)*



John Ott, who has been using color time-lapse films on his garden program since June, 1955, is one of the local NBC stars whose show will be seen entirely in color

Looking over the color conversion plans are left to right, Henry Sjogren, assistant general manager of WNBQ; Jules Herbuveaux, NBC vice president and local station manager; and Howard C. Luttgens, the station's chief engineer

Left to right, vocalist Mike Douglas, orchestra leader Joe Gallicchio, vice president Herbuveaux, and singer Nancy Wright inspect a model of a color set for the "Adults Only" program which will be seen in color after April 15







A magnifying glass is used by Bernice Chatwin, checking expert for the Illinois Bell Telephone Company, to help decipher handwriting on toll call ticket

# Isillegiblehan

**J**UST one year ago this month, as millions of northern Illinois taxpayers were beating the April 15 filing deadline, one clerk in the internal revenue bureau's collection section in Chicago sighed: "Here's another doozie."

It was an income tax return indicating a rebate. You could make out the amount all right—\$112.32—but who gets it? Although the tax forms state clearly "Please type or print plainly," this was a puzzling scrawl.

"We get thousands of returns each year filled out in illegible scrawl," says Harold Haas, in charge of the collection section. "Usually we consult the W-2 form, if there is one attached, and telephone the employer for help in deciphering the taxpayer's name and address. We have street directories, too, and magnifying glasses."

But the chap with the \$112.32 coming to him was a tougher case—no W-2 form and an address that looked like a spider web. Eventually, a never-give-up clerk was able to make out the name of a doctor listed in a medical deduction item. The doc, telephoned, shuffled through some of his own admittedly illegible

records and came up with the taxpayer's identity.

The income tax people are expecting more of the same this month.

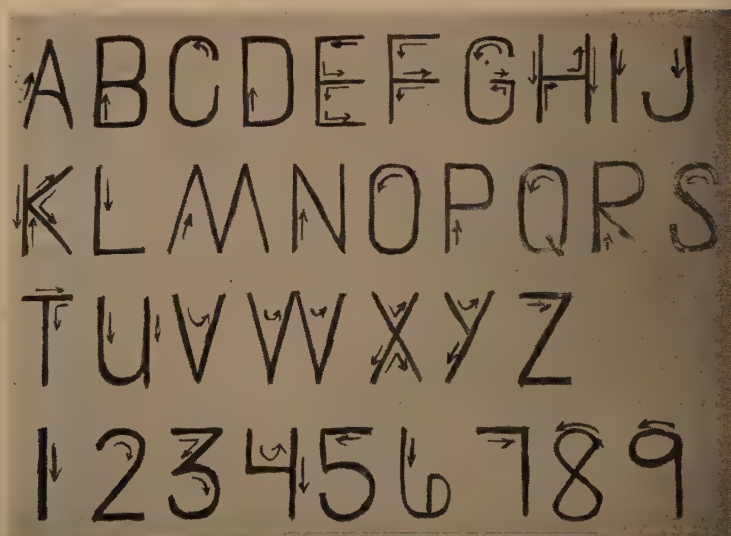
So are the post office people, the railway express people, the utility and insurance companies, the banks, the mail order houses, the pharmacists, the department stores, the personnel offices in factories and business houses — anywhere and everywhere that pencil or pen is put to paper in an effort at communication.

Fact of the matter is that many, many of us simply do not know how

to write clearly. And it is costing us.

More than \$70 million were lost by American businesses last year because of illegible handwriting. Albert G. Frost, head of the Handwriting Foundation, bases that estimate on a nationwide survey of over 3,000 personnel directors. He says: "Plain, legible handwriting seems to be a rapidly disappearing art in this country."

At the main Chicago post office, at least two men with Sherlock Holmes lenses, the patient imagination of crossword puzzlers, a stack of phone books and street index directories — and the instinct of sleuths —



All photos from Illinois Bell Telephone Company

Simplified method of print-writing, developed by Miss Ruth Kittle, handwriting expert, illustrates how each letter and number (except for the letter "Q") are put down speedily and clearly without taking the pencil off the page



# Handwriting causing your company to lose money?

Illegible handwriting cost American businesses more than \$70 million last year. Here's what some companies are doing to combat the loss

By

**MILTON GOLIN**

Each day pore over "the hard ones." These are the hieroglyphic addresses on letters and parcels. The total is staggering.

Each year a half million pieces of mail end up in the Chicago dead letter office because of poorly handwritten addresses, according to Fred Haase (no kin to Harold with a similar problem at the internal revenue office).

Postal officials say that much of the poor handwriting is from the South, where a worm-line following an "M" and a snail after the next word starting with an "A" means the mail comes from Mobile, Alabama.

## Signature Illegible

Not too many years ago a man in Virginia got a letter from Dr. George H. Denny, then distinguished president of the University of Alabama. The Virginian could not read Denny's signature. So he cut it out of the letter, pasted it on an envelope and addressed it to the university.

It got there; the postal sleuths came through.

Over in the Illinois Bell Telephone building at 212 West Washington Street, losses of \$50,000 a year were piling up from illegible handwriting of operators at long-distance switchboards. Subscribers were being billed for calls they never made to places where they had neither friends nor relatives. A man with a Columbus exchange made a call to Denver, but the elderly lady at a CAnal number got the bill that month.



Catherine O'Connor instructing a class of long distance telephone operators at Illinois Bell in the Kittle system of print-writing

Squinting at the scribbly toll tickets, billers were asking themselves: Is it CEntRAL or CANal or COLUMbus? Is it LONgbeach 1-3428 or LONgbeach 1-3458? What does this futuristic art design mean in terms of a phone exchange name?

You won't find these big time-killing annoyances and cash-consuming errors at Illinois Bell today. Three years ago company executives met with Chicago public schools officials, and it was decided to hire a handwriting expert—six-foot tall, twangy-talking Miss Ruth Kittle, originator of a streamlined printing method of writing which is being adopted and adapted in schools and businesses across the country.

Miss Kittle immediately organized

classes for Illinois Bell's 4,100 Chicago toll and long lines operators. Every operator gets a modified form of this training even today. Miss Kittle's system is supposed to make it practically impossible to mistake one figure or letter for another. It tosses out the curlicues to create unslanted manuscript (print writing) that is easier and faster to do than ordinary (cursive) writing. Small letters in ordinary writing take 73 strokes to the alphabet, but in her system they take only 33.

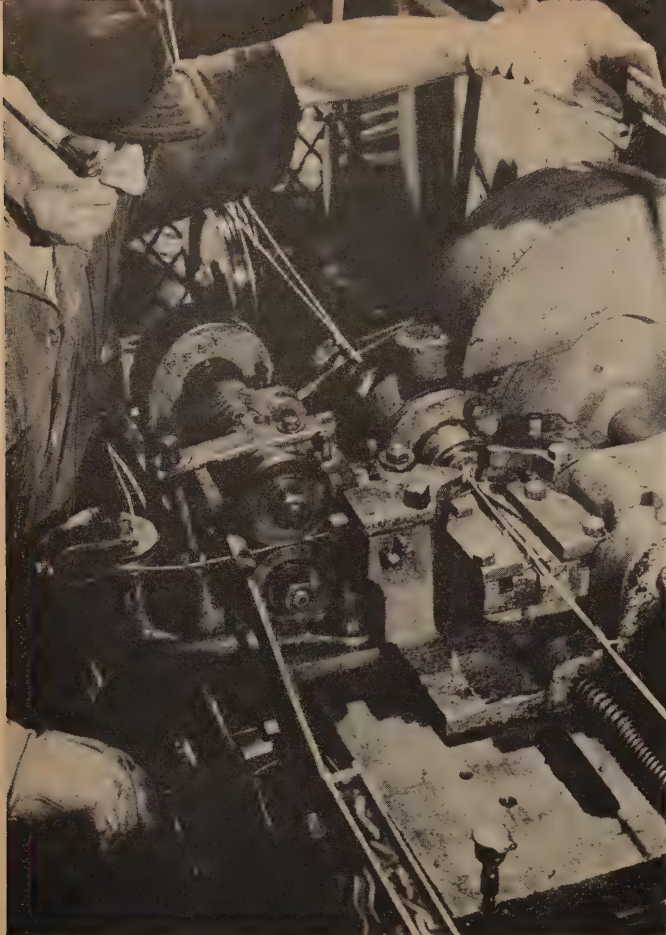
This month, says Miss Kittle, she is planning long-delayed publication of a simplified writing system specifically designed for business and industry (her efforts thus far have been concentrated in schools and before P.T.A. groups).

Bell Telephone Company of Pennsylvania is sending representatives to a handwriting course started early this year for some 50 firms in Philadelphia. There, over 100 adults with a serious business purpose are attending four-hour sessions sponsored jointly by the state school district

Evening school principals of the Chicago public school system are meeting this month to lay the groundwork for handwriting classes for adults. Companies wishing more information on the special program are invited to telephone Dr. Burton Duffie, director of education extension, at DEarborn 2-7801 or write to him at 228 N. La Salle St.

(Continued on page 34)



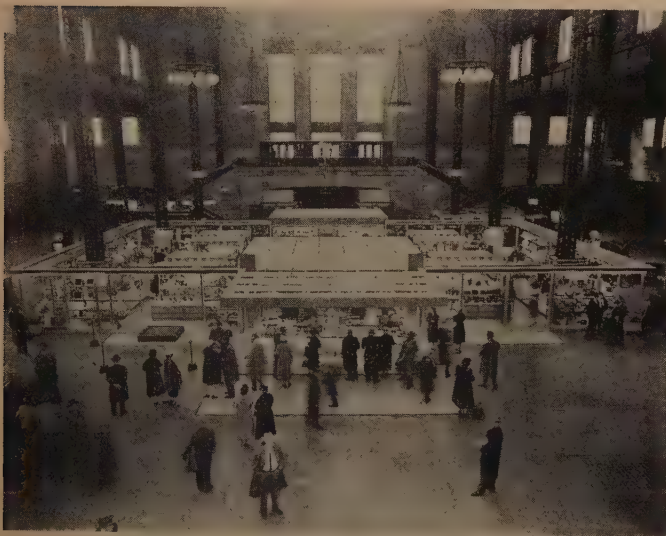


This barbed wire machine operated by American Steel & Wire Division of The United States Steel Corporation can turn out about 300 pounds of the spiny fence on hour. In 1873 when barbed wire was first invented in DeKalb, Illinois, two men and three boys turned out 50 pounds of it a day. These facts are brought out in connection with the 125th anniversary of wire making in this country. Ichabod Washburn established the nation's first successful wire drawing mill in 1831. His production rate: 15 tons in 24 hours. Today mills roll 500 tons of wire in an eight-hour shift



Chicago Daily News photo

James E. Day, president of the Midwest Stock Exchange, posts the name of the Ford Motor Company on the Exchange's board marking the opening of trading in Ford common stock on the Exchange. Looking on is S. L. Simmons (center), manager of the Ford division Chicago assembly plant, 12600 S. Torrence Avenue, and Reuben Thorson, senior partner of Paine, Webber, Jackson & Curtis, the issue's registered specialist-odd lot dealer



A bird's eye view of the new Fred Harvey Shopping center, located in the middle of the concourse of the Chicago Union Station, it is the first of its kind in any transportation terminal. The new shop, a unique structure of glass embodying many new merchandising principles, is intended to serve the 50,000 commuters and travelers who go through the Chicago terminal daily

Oscillating motion is now being utilized to empty grain and other free-flowing bulk materials from railroad box cars at the rate of four car loads per hour. An entirely new concept in box car unloading, the new unit, known as the Kar-Flo, is safer and faster than manual unloading, according to Link-Belt Company, the manufacturer

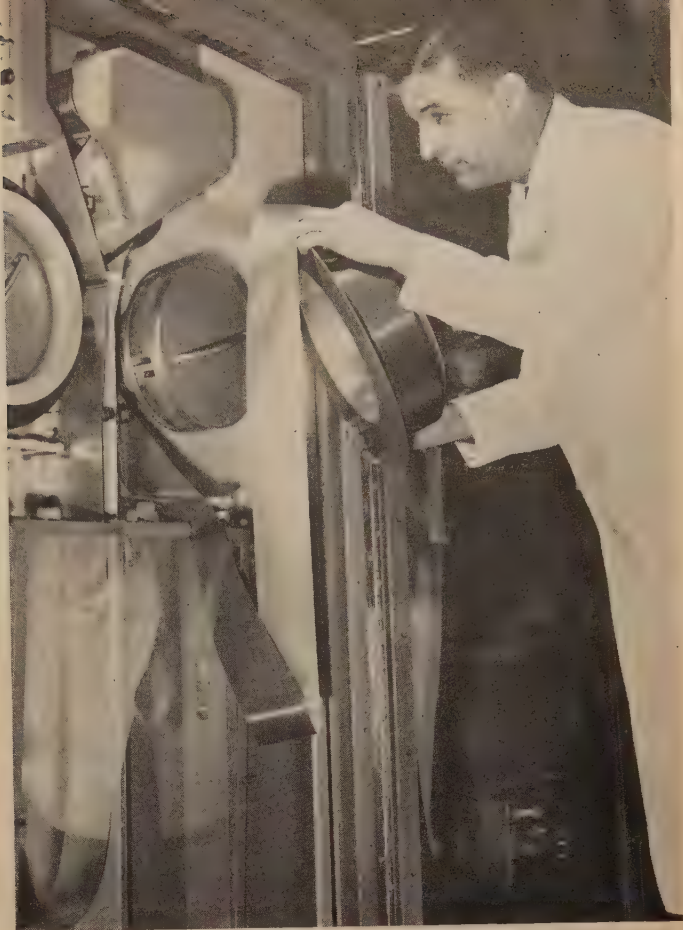




# Highlights

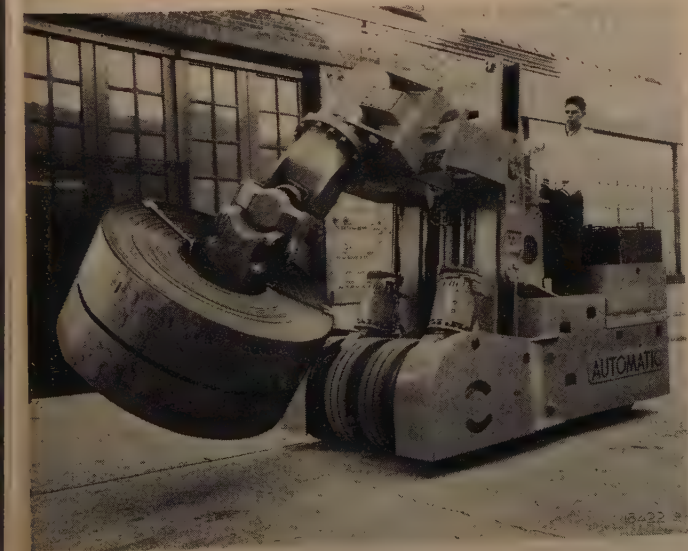


Chicago gets a look at its recently purchased firefighting equipment. Above is a partial view of the half-million-dollars worth of new equipment which included seven new FWD aerial ladder trucks, ten new pumpers and ten new ambulances. More than 300 off-duty city firemen participated in the demonstration, largest in Chicago's history, and the parade of fire apparatus



There'll be no broken fingernails or frayed tempers searching through filing cabinets in tomorrow's de luxe office. High-speed data-processing systems like the recently unveiled Datamatic 1000 will electronically find the information in special magnetic tape files. Above a Datamatic engineer threads a giant spool of tape in one of the system's 100 file units. This single, 2700-foot spool can store as much data on its 31 channels as could be found on about a half-million punched cards. The new \$1.5-million processing system can search ten files simultaneously within 11 minutes to find any specific data

This heavy ram truck attachment can pick up a 60,000 pound steel coil in either a vertical or horizontal position and rotate it to the opposite position. It is a product of the Automatic Transportation Company, 149 W. 87th Street, Chicago. The attachment eliminates the necessity for a separate coil upending unit in rolling mills, adds flexibility to steel coil storage methods and increases the usefulness of the truck according to the company



Chicago Sun-Times photo

Breaking ground for the new \$400,000 residence hall for 146 women at Lake Forest College is Chicago attorney, Joseph B. Fleming, president of the college's board of trustees. Taking part in the procedure are, left to right: Lake Forest College president Ernest A. Johnson; Fleming; and trustees, J. Howard Wood, vice president of the Chicago Tribune; and Elliott Donnelley, executive vice president, R. R. Donnelley and Sons





Animals await marketing in a few of Chicago Union Stock Yards 7,500 pens

## Chicago continues to hold its own as world's champion livestock market

**N**O MATTER how you look at it, Chicago continues to hold its own as the world's champion livestock market.

Last year, exactly 5,612,681 head of livestock — more than \$600 million worth — were sold at Chicago's Union Stock Yards. This was 180,000 more than were sold anywhere else in the world.

During the same period, a changing trading picture, and expansion and modernization by the yards and by leading Chicago meat packers, opened the way for future growth.

### Hog Sales Jump

A substantial part of 1955's gains were due to the number of pigs that came to market in Chicago. Last year's hog sales were up 25 per cent over 1954. Sheep sales went up 15 per cent, and the long range picture indicated bigger increases will come. During the 1950-1954 period, for example, 2,275,196 more hogs were

sold than during the 1945-49 period, and the impressive 1955 record indicates Chicago hog sales have a bright future.

Major improvements already beginning to be felt at the yards include such things as new stalls, materials handling equipment, loading docks, and a newly inaugurated "hot-shot" train service that ships stock to the east coast on passenger train schedules.

In light of Chicago's impressive sales record last year, one would think the city's leadership would continue to go unchallenged. This has not been the case. One of the hottest issues discussed in stock yards circles was Omaha's claim to Chicago's title in 1955, based on the total number of livestock which passed through the Omaha Stock Yard.

Although Omaha's total receipts exceeded Chicago's by 388,000 the city's total sales lagged behind to the tune of over 180,000 head.

In 1955, 2,740,957 hogs were sold at the Chicago market — 392,292 more than were sold at Omaha's yards. Chicago led in cattle sales, too. Heads sold at Union Stock Yards numbered 2,259,918, or 34,847 more than were sold in the Nebraskan city.

### Gap Narrows

Only in calf and sheep sales did Omaha lead (as it has in past years), but in 1955 the gap between sales in these categories narrowed. Sheep sales on the Omaha market exceeded Chicago's by 280,900 in 1954, but by only 234,442 in 1955. Calf sales, which topped those on the Chicago market by 27,786 in 1954 were losing ground in 1955. Omaha's calf sales exceeded Chicago's by only 12,209 at the end of the year.

Chicago Stock Yards officials define a "market" as a place where livestock is sold. They discount the "total receipts" upon which Omaha



# Chicago Stockyards: Where Most Little Pigs Still Come to Market

By **ANTHONY and  
MARIETTA MARCIN**

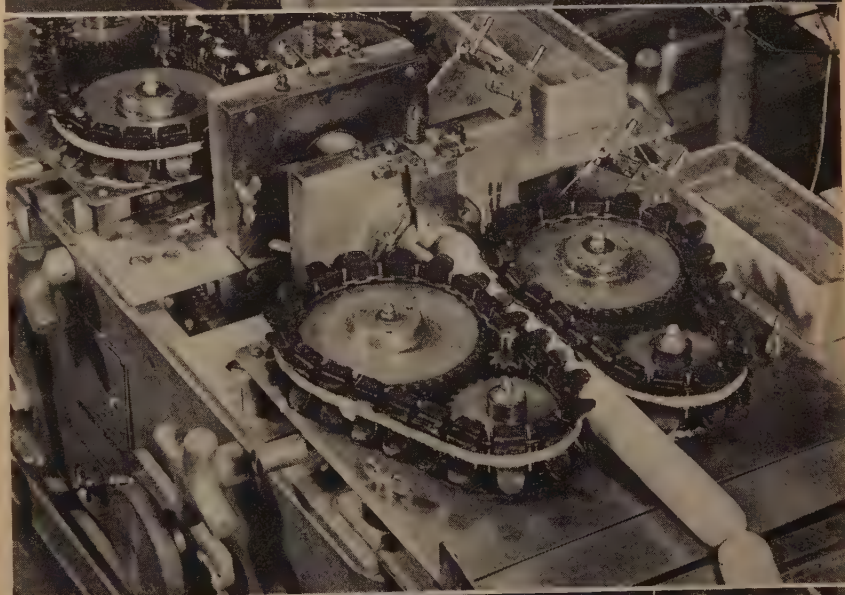
bases its leadership claim on grounds that total receipt figures include livestock that are stopping for lunch in Omaha before heading for the Chicago market where they are to be sold.

"We're proud of our market leadership," declared Chicago Stock Yards President William Wood Prince settling the question once and for all. "The only true measure of determining a livestock market's stature is by its salable receipts. These represent only livestock that are sold at the market, the function for which public livestock markets were established. Our salable figures do not include animals held over for feed and water, nor those bought elsewhere (known as direct receipts) and shipped to packing plants."

## *Pattern Changes*

There's no doubt that the pattern of the Chicago marketing picture has changed in the past few years, even though its claim to leadership hasn't.

In the early years of the Chicago Stock Yards' history, a few large packers bought the bulk of the fat livestock delivered to the market and slaughtered them within the immediate yard area. Similar condi-



Chicago meat packers are modernizing and improving their facilities to maintain their leadership in the production and merchandising of quality products. At right, top, sliced luncheon meats being vacuum packaged; middle, this new automatic linking machine ties frankfurters into desired lengths before they are cooked and smoked; bottom, hams are sorted by quality and weight prior to being cured. All pictures from Armour and Company





## *New Package Handling Facilities*

Featuring many innovations, from new style conveyors to novel ramp designs, the new United Parcel Service building in Chicago is the largest and most modern of its kind in the entire country. It is expected to handle over 12 million packages a year.

Located in the 600 block on Harrison between Des Plaines and Jefferson Streets, the new three-story structure and the redesigned one-story building provides approximately 300,000 square feet of working space.

An outstanding innovation in the package handling facilities is the new crescent-pallette conveyor (pictured above). It is 36 inches wide and the only one of its kind in the package handling industry. It carries parcels horizontally around curves and corners and replaces the old straight line belts using bank-boards to shunt parcels to belts moving in another direction.

Hammond Ladd and Ralph Werner, chief engineers of United Parcel, who designed much of the new equipment and set the standards, report the new facilities will handle current late hour package loads of 25,000 parcels per hour. With added speed, the equipment can step up to rush peaks of 35,000 an hour with ease, and by added hours, can increase daily package volume over five times.

tions existed at many Eastern points, where stock yards were operated primarily to provide local packers with their slaughtering needs.

If the competition these packers provided earlier at the Chicago market had not been supplemented and exceeded by the introduction of additional buyers on the market, the market's strength would have been impaired recently when one packer removed all slaughtering operations from the city.

Today, however, the buying support at Chicago's market is no longer limited to three or four major packers. Each trading day, about 460 buyers and representatives are pres-

ent at the market. Of these 460, a majority are agents for more than 200 packers in 38 states. Only 70 buyers represent Chicago's nine slaughterers of cattle, and 50 represent the eight local hog butchers.

As a result, more than half of Chicago's volume is now purchased by small and medium-sized packers. Nearly one-fourth of the volume goes to order buyers for shipment East. The remaining one-fourth is bought by big name packers.

Chicago no longer relies solely on local demand. It has outlets for producers' livestock in 38 states.

All the factors that made Chicago an ideal livestock center for the past

50 years still prevail today. The city is geographically located in the center of one of the greatest livestock production areas of the country. It has unexcelled transportation in and out. Concentration of population still remains in the East, and Chicago's metropolitan area, a market in itself, continues to grow at the rate of almost 150,000 a year. Because Chicago's Stock Yard has remained a leader for years, it has been a barometer for price basing in markets throughout the country. And, the business volume has been sufficiently large to attract buying support.

Since opening in 1865, over one billion animals have been handled and marketed at the Chicago Stock Yards, representing a value of over \$31 billion, greatest volume of any market in the world. As many as 122,479 hogs, 49,128 cattle, and 71,792 sheep have been sold at the yards in one day.

## *Long, Long Line*

When the billionth animal was sold in September, 1954, statisticians figured that if all billion animals sold at the Chicago market were placed in a single line, head to tail, the line would stretch around the world at the equator nearly 40 times. And, if the animals should pass by in a parade, one every three seconds, it would take nearly 100 years for the procession to pass any given point.

Chicago Stock Yards officials, realizing the responsibilities that go with leadership, have continued to meet the pace by making constant improvements. Since the war, over \$2,000,000 has been spent on modernization of Stock Yards facilities. Today, the yards are served by all 28 railroads which enter Chicago. Within the one mile long and half mile wide yards area, are nearly 150 miles of inter-twining railroad tracks. A nine-story office building (Exchange Building), scores of modern unloading docks, trucks chutes, scale houses, grain elevators, sales ring and water systems are other features.

The yard's 7,500 pens are kept clean by a battery of mechanized equipment, manned by 500 employees. Powered sweepers, cleaners, loaders, dump carts and tractor drawn trailers aid in cleaning tasks. The modern, mobile equipment that



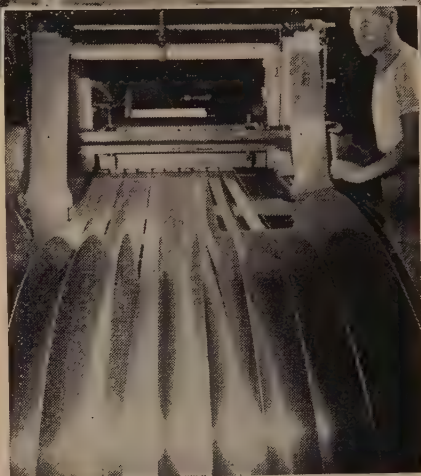
# Only STEEL can do so many jobs so well



**Let It Snow.** This eye-popping "Sno-Freighter," built by one of our customers for Alaska Freight Lines, Inc., operates over snow, ice and bulldozed trails. Each wheel in the 6-unit train is driven with its own electric motor. The 7-foot-high tubeless tires are 38 inches wide at the base, and the Sno-Freighter can wade through 6-foot-deep water without damage. USS steels played an important part in this amazing machine, including USS Shelby Seamless Tubing for the vital car coupling system.



**Beautiful—And Safe.** This handsome boat is possibly the safest pleasure boat ever made. With welded construction, gasoline and bilge areas can be completely separated, eliminating the most common cause of boat disasters: fire. The boat is made from USS Cor-Ten Steel, which is much stronger and more resistant to corrosion than carbon steel.



**Slit It Yourself.** In this plant, USS Galvanized Steel Sheets are being slit into strips, which in turn will be formed into moulding channels. The galvanizing won't flake off, despite the extreme deformation.

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cares for the thousands of animals arriving each day is a far cry from days when all these tasks were done manually.

Each street and alley is swept and cleaned at least every second day. Coupled with rules of cleanliness is the recently inaugurated safety program designed to protect animals against bruises and shrinkage. Proper care of animals is the chief aim of this program, and canvas flappers are employed by handlers while the livestock are being urged through the unloading and marketing processes.

### **New Unloading Dock**

Recently much of the yarding facilities have been rebuilt, and large areas have been paved for easier truck movement. A new unloading dock with metal gates, non-slip "waffle-type" concrete steps and floors was completed recently, and livestock scales which remove the possibility of human error have been installed.

These improvements, combined

with the installation of giant floodlights, provide easy and safe yarding service at any time of the day or night, and help prevent mix-up in livestock ownership.

Another charge that has been leveled at Chicago by Omaha is that Chicago is losing its claim to the title of packing city. This claim is based primarily on the fact that two packers, Cudahy and Wilson, discontinued Chicago packing operations during the past few years. Chicagoans point out that the gap left by the departure of these packers has permitted growth of many smaller packers.

A survey of the remaining large packers indicates that, while a few of them are decentralizing to keep up with the trend being set by big businesses today, they have no intention of disbanding their Chicago packing operations.

Six out of every 10 cattle bought on the Chicago market are still slaughtered in Chicago, and local packers slaughter seven out of every 10 hogs.

Perhaps the most effective vote of

confidence has been given the Windy City by Armour and Company. In 1955, Armour completed the major part of its program to consolidate and modernize its Chicago plant. So far, \$11,000,000 has been spent on this program.

As Armour's President F. W. Specht told stockholders recently, "I hope it will be clear to everyone that we are not shrinking our business in Chicago through this modernization program. On the contrary, when we get this job done, we hope to improve our identity and position in this market."

In 1954, Armour realigned and consolidated Chicago curing, sliced bacon, sausage, margarine, and animal feed operations. During 1955, the company completed new facilities for hog slaughtering, pork cutting, and smoked meats. A relocated rendering plant was put in production, and beef handling was streamlined by rearranging and improving cooler facilities and cutting operations. Improvements were made on truck loading docks in 1954, and new packing and shipping facilities were added in 1955.

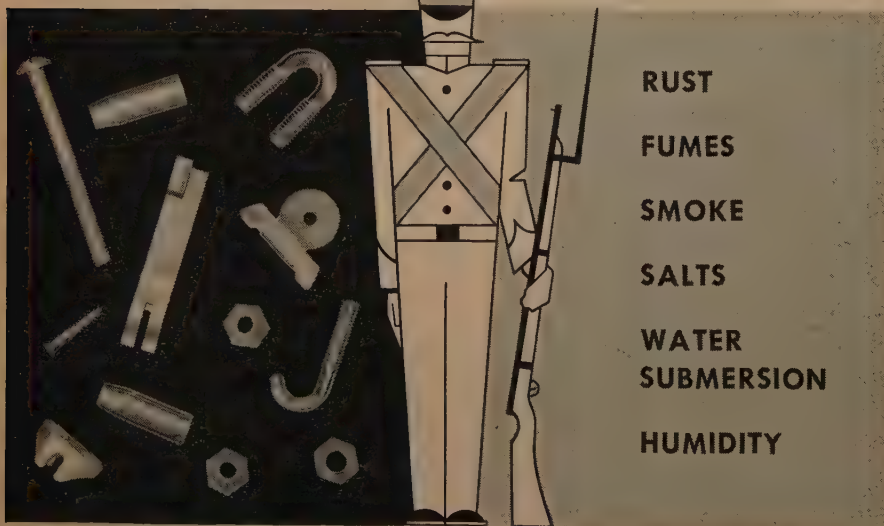
According to President Specht, "As a result of our Chicago plant consolidation and modernization program, sizeable reductions in expenses have been effected in handling and processing of meats . . . our decision (to go through with the Chicago plant program) underlines the importance our company attaches to Chicago as one of the key livestock markets and consuming centers in the country."

### **Complete Rebuilding**

Swift and Company also has made extensive improvements in the past year. One project now underway is a complete rebuilding of Swift's cattle dressing floor. When finished, it will utilize the latest equipment and methods. This project is planned for completion by August, 1956. In the same building where Swift's cattle dressing floor is being rebuilt, the dressing room for small stock (lambs, calves) is undergoing extensive modernization.

Agar Packing and Provision Company last year spent several hundred thousand dollars improving Chicago facilities. A new loading dock to relieve congestion is now being completed by Agar. And, both loading

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Stocks have been refrigerated as were all the company's trucks.

Several hundred new curing tanks were set up on Agar's curing floor in which bellies are cured, preparatory to the processing of bacon, and a new curing machine was purchased.

Dispelling the belief that packers were moving out of Chicago, Morrell in the past two years purchased its first two plants in Chicago, where sausage and smoked meats are now being processed. At the end of 1955, the company also moved its general office here from Ottumwa, Iowa.

And, despite the fact that some packers are decentralizing (and slaughtering fewer animals here), all of them still continue to buy hogs and sheep on the Chicago market, then ship them to other plants for slaughter.

The most important improvement at Chicago Stock Yards, most people agree, was inauguration of an Eastern "hot-shot" rail service in April, 1955.

### Shrinkage and Bruising

One of the biggest problems that had to be faced by Eastern packers was the shrinking and bruising of livestock while the animals were railroaded East from the Chicago market where they had been bought.

The main complication was that, under law, the animals had to be unloaded every 36 hours, fed, rested for five hours, before they could be reloaded and sent on their way. This stop added to the cost, and delayed arrival of the trains at their Eastern destinations.

Stock Yards officials, realizing that more livestock would be bought on the Chicago market if these irritations could be overcome, consulted the railroad, asking if they could make express livestock shipping runs (comparable to those for perishable fruits) which would get livestock from Chicago to the East in less than 36 hours.

New York Central made a few runs, to test the feasibility of such a program, and found it could be done.

By April, 1955, five major railroads had agreed to run trains on the "hot-shot" schedule. New York Central, Pennsylvania, Erie, Baltimore and Ohio, and Nickel Plate trains began to send "hot-shot" specials to New York City, Philadel-



The part at the top is a stamping used in a product for the telephone industry. As you can see it is drawn with heavy score marks on the vertical portions. These marks formerly had to be completely buffed out before finishing. Of course, this was costly work.

Realizing the problem, Laystrom suggested the use of a special alloy steel die which would cost more to make. The results show up in the lower photo, an unretouched picture of the resulting part. Galling and scoring are completely eliminated and the customer only requires a touch up buff before finishing. Added to this, the maintenance on the die takes less than half the time it did before. More pieces before grinding die mean better production, cutting unit costs significantly.

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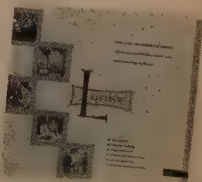
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phia, Pittsburgh, Newark, Jersey City, Baltimore and several other intermediate points.

Enthusiasm for the program was shown immediately. In the first eight months "hot-shot" specials ran, hog shipments East increased 91 per cent. A 15 per cent increase was noted in cattle shipments, and lamb shipments to Eastern packers increased 33 per cent.

Benefits of the program have been many. The packers have saved in shipping, feeding and operating costs. Under the new fast shipping schedules, livestock purchased at the Chicago market is available for "second day" slaughter.

Animals purchased on Monday's market are loaded that afternoon at the rail docks in the Chicago Stock Yards. They streak Eastward late in the day and arrive at their destinations well in advance of the Wednesday morning slaughter schedule. At many of the Eastern packing plants, this service allows for an extra day of slaughter.

Eastern packers report that the through-train delivery makes possible higher carcass yields and lower weight loss on their livestock shipments. One Eastern cattle buyer said, "With slower schedules, a midpoint feeding was required by the 36-hour law. Dressed out, the shipment then averaged between 30 to 40 carcass bruises a carload — generally in the high-priced loin or round portions. Now with no in-between handling, the bruises run one or two per shipment. Furthermore, the cattle dress out better. The finished carcass has a better bloom and skinning is much easier."

Another veteran hog buyer, who has been at the Chicago market since 1918, said, "The fast train service gives the packer a saving of about \$50 per carload of hogs. The saving represents a better yield, the elimination of feeding charges and a lower mortality rate. Hogs are very sensitive to weather changes and the faster time reduces the exposure to heat or cold."

Reports from Eastern packers show that transit shrink on fast shipments is about 9.2 per cent. On slower shipments, the average was about 12 per cent. The dressing yields on hogs are about two to three per cent higher since the faster rail schedules were inaugurated, and selective meat type hogs now are yielding as much as 71 per cent of live weight.

The advantages of the "hot-shot" operation — the opening of new outlets, lower costs — are only now beginning to be exploited, though, says M. J. Cook, vice president of Union Stock Yards Transit Company. "I doubt if we've seen full effects yet."

"Many packers in the East and Southeast are anxious to get in on it. At present, we're working to get outlets in other Eastern cities. Also, although we don't drop off any cars now at small cities en route, the railroads are teaming up to work something out to remedy this."

Mr. Cook explains that plans for future "hot-shot" operations from the West to Chicago are now in the experimental stage. "At present," he says proudly, "we have cars of live stock coming from as far as the western border of Nebraska."

## What's Ahead In Next Ten Years?

(Continued from page 14)

requiring large capital outlays. And also before the end of the next decade the first atomic-powered merchant vessels will be in operation. The new interstate highways, 40,000 miles at a cost of \$27 billion or more, will create a multitude of new investment opportunities and thus a huge demand for investment funds. During the next decade enormous expansion is needed in air fields which are now so inadequate that traffic is badly delayed in times of bad weather, and traffic hazards exist at many air fields even in good weather.

Changes in consumer goods will keep up personal consumption expenditures and keep down personal savings. Improvements in color television and reduction in cost of color TV sets will make obsolete most of the present 35 million TV sets. Automobiles will use far more aluminum than present cars, and direct injection will probably replace the carburetor. Hence, the 50 million passenger cars on the roads at present will become obsolete fairly rapidly. One is fairly safe in predicting that new and more convenient electric refrigerators will make obsolete



most of the 40 million clumsy and inconvenient refrigerators now in American kitchens. Even changes in the design of houses will introduce considerable obsolescence into most of our houses.

The large and growing consumer credit industry will encourage people to borrow more freely than ever. This industry now includes not only finance companies, but automobile dealers, household appliance dealers, railroads, air lines, steamship lines, department stores, and an increasing number of commercial banks with personal loan departments—all devoted to encouraging people to buy now and pay later. A \$30 billion increase in consumer credit in the next decade is to be expected. Finally, money incomes, and thus the money demand for goods, will be raised by the trade unions which will be quick to see that technological progress is converted into higher wages. There is no likelihood of runaway price increases during the next decade, but it will be easier for most prices to rise than to fall.

### Faster Change

There is no doubt that at present we are living in an age of far faster technological change than mankind has ever known. Change tends to be self-perpetuating and even cumulative, partly because some changes create the need for other changes and partly because research is almost inevitably competitive. Added to the competition between business enterprises in research is the underlying competition between Russia and the United States. This competition is broadening. It is far more than merely competition in the technology of war. It is becoming a competition between all kinds of social institutions including the course of ability to produce goods. Although the prospect is that technological change will become faster, the United States may not succeed in raising its output rapidly enough to meet the growing need for goods.

Certainly rapidly changing products require better informed and more sophisticated consumers than ever before, and running a business in an age of rapid technological change is obviously a more exacting job than running a business in a static period. Consequently, the changing world in which we live is

having important effects upon the structure of business managements and the internal operations of business.

There have been several important changes in business operations that are largely (though not solely) attributable to the rapid rate of change. One is the partial separation of the functions of general policymaking and policy execution with considerable decentralization of the execution of policies. It is obvious that in a changing world the function of policymaking becomes at once more important and more difficult. The men who perform this function need to have good opportunity to think and reflect, and they also need help from staff departments. An increasing number of companies are modifying their internal structures to relieve top policymakers of responsibility

for routine and to increase the help that they get in making decisions. The precise organizational arrangements vary in different companies, and they inevitably reflect personalities in top management. Quite often they take the form of a policy committee or executive committee composed of heads of principal operating and staff divisions who have been relieved of all but very general supervision of operations.

An increasing number of companies are setting up planning departments which have the responsibility of doing continuous research on long-range technological, market, and social trends, and calling management's attention to the significance of these trends. And a growing number of enterprises are making regular, though tentative, projections of sales and capital expenditures giving management perspec-

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tive for three to five or even ten years ahead.

Finally, there has been an amazing growth of executive development programs in recent years. The American Management Association recently found that more than half of the companies contacted in a survey had systematic programs for developing executives. This does not mean that one out of two concerns has such programs, because the companies surveyed by the American Management Association were not necessarily representative. It is significant, however, that a similar survey by the National Industrial Conference Board only ten years ago did not discover enough executive development programs to form the basis for a report. As the responsibilities of top managements increase, and as the task of keeping abreast of the times becomes more difficult, companies are moving promptly to help executives grow with the importance of their jobs.

### *Unplanned Change*

It may seem paradoxical, but it is true, that in the midst of rapid industrial changes, production and employment are becoming less susceptible to cyclical fluctuations. Most of this change must be regarded as unplanned. It is simply the result of developments. During the latter half of the nineteenth century and the first part of the twentieth century, various conditions made the economy unusually sensitive to cyclical fluctuations. One of these conditions was the fact that there were many fewer important industries than there are today. Hence, conditions affecting any one of these industries tended to have broad repercussions throughout the economy.

As the number of important industries increases, each one of the industries has less pronounced effects upon the entire economy. And the susceptibility of industry to ups and downs in the nineteenth century and the early parts of this century was affected also by the fact that managements had limited experience in making the investment and production development policies of large concerns and that business as a whole was learning through somewhat costly experience how to make use of the relatively

(Continued on page 31)





# Industrial Developments

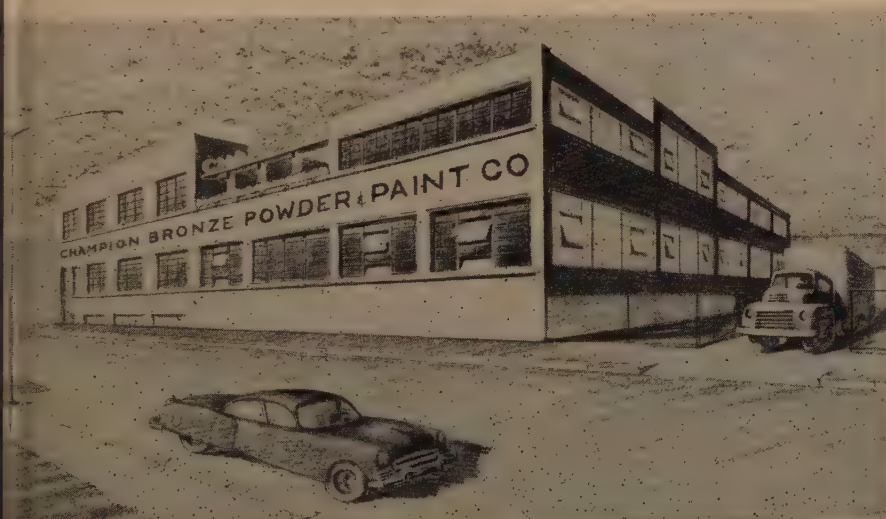
*... in the Chicago Area*

THE value of industrial plant investment programs announced in the Chicago Metropolitan Area in the first quarter of 1956, amounting to \$259,581,000, was the largest total yet recorded in all but three of the entire years since the war and nearly one-half of the total investments announced in 1955, which was the largest year on record. Total expenditures of \$216,963,000 were announced in March for construction of new plants, expansion of existing plants and acquisitions of existing buildings in the Chicago Metropolitan Area. Also included in these figures are purchases of land for future industrial development. Investments announced in March were the third largest on record. The record month was November, 1955, when investments of \$240,900,000 were announced and the second was April, 1942, when \$232,500,000 were recorded. Eight of the projects announced in March are valued at \$1,500,000 or more.

**United States Steel Corporation** will increase the annual steel making capacity of its Gary Works by

more than 700,000 tons annually, and of the South Works in South Chicago by more than 500,000 tons. Gary Works, the world's largest steel mill, and South Works, the fourth largest in the nation, will have a total capacity when enlarged of nearly 14,000,000 tons annually. The company plans to improve its slabbing mills at both plants for the initial preparation of ingots for further rolling operations, a structural mill at South Works, and sintering facilities will be installed in both plants. The corporation will also add a new hot strip mill, a pickling line, a cold reduction mill, annealing and tempering facilities and a flying shear line at its Gary Sheet and Tin Mill.

• **Wisconsin Steel Division** of International Harvester Company will increase the steel capacity of its mill by approximately 20 per cent in an expansion and modernization program which the company is starting at 106th and Torrence avenue. The program will include the installation of 52 coke ovens, enlarging one blast furnace, an additional



Artist's sketch of the new and enlarged manufacturing facilities of the Champion Bronze powder & Paint Company, located at 2101-21 N. Elston Avenue, Chicago

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- **Frank G. Hough Company** in Libertyville, a subsidiary of International Harvester Company, has broken ground for three additional units at its plant. A manufacturing building of 27,000 square feet of floor area will be erected, a warehouse building containing a cafeteria, of 21,000 square feet of floor area, and a 17,000 square foot office building. The total of 65,000 square feet will include additional factory parking area. The Hough Company produces material handling equipment, tractors and tractor shovels and other earth moving equipment. E. O. Sessions, engineer; Campbell, Lowrie, Lautermilch Corporation, general contractor.

- **International Harvester Company** will build a farm equipment research laboratory near Hinsdale on the company's experimental farm. The research center will be used by the company's farm tractor and farm implement division, its consumer relations unit and other divisions of the company.

- **Electro-Motive Division of General Motors Corporation** will increase the manufacturing space of its plant #1 in McCook by 42%. The new floor area will be used in part for diesel locomotive manufacturing and rebuilding, and in part for the production of electrical utility and oil drilling equipment which the company has recently added to its line. The expanded facilities will create 2,000 new jobs at the plant in addition to the 9,000 persons employed there. The additional manufacturing facilities in McCook will total 805,000 square feet of floor space.

- **Berry Asphalt Company** on Industrial Highway in Gary is erecting a platforming unit at its plant for the production of chemical by-products. Koch Engineering Company, general contractor.

- **Sun Electric Corporation**, manufacturer of automotive testing equipment, is erecting a 60,000 square foot building on a 12 acre site on the north side of Dundee Road east of the Soo Line Railroad near Wheeling. Sun Electric has several plants in the Chicago area. The

new factory will be the first development in Wheeling Industrial Park which is being developed by Willoughby and Company.

- **Sunbeam Corporation**, electrical appliance manufacturer, is erecting a building of 80,000 square feet of floor area adjacent to its plant #1 at 5400 W. Roosevelt road. The new building will house the office facilities of the company including the engineering, production, purchasing and personnel offices. A cafeteria will also be installed. Olsen, Urbair and Sandstrom, architect.

- **Acme Steel Company** has started construction of a new 100,000 square foot office building at its plant in Riverdale, which will allow the company to consolidate all its Chicago area operations at the Riverdale plant. The company now maintains offices at 2840 Archer avenue which will be moved to the new building. Schmidt, Garden and Ericson, architect; La Salle Construction Company, general contractor.

- **American Auto Parts Company** Kansas City, Missouri, has purchased one of the few government war plants left in the Chicago area where it acquired the Gary Armour Plate Plant operated during the war by the United States Steel Corporation. The obsolete machinery in the building will be dismantled and the building used as an industrial warehouse. It was purchased from General Services Administration.

- **Rose Packing Company**, 214 N. Green street, will move to a plant it is having constructed in Forest View when it is completed in 1957. It will be located on a five acre site and be one story, containing 65,000 square feet of floor area. The plant will be located at 4900 S. Major avenue, and is being built by the Clearing Industrial District.

- **Chicago Commutator Company** 325 W. Ohio street, will break ground soon for a 25,000 square foot plant at Wheeling road and Exchange court in Wheeling, to which the company will move its entire operations when completed. Cone and Dornbusch, architect.

- **G. D. Searle and Company** Searle Parkway in Skokie, has acquired a 130 acre site south of Dun



see Road west of Wheeling where it will erect a new pharmaceutical manufacturing facility at some future date. The tract is being held for future construction because the company has outgrown its 26 acre site in Skokie.

• **F. Mattern X-Ray Company**, 647 N. Cicero avenue, is erecting a new plant to house the firm's operations located on Wilson avenue in Harwood Heights. The plant, which is scheduled for completion in July, will contain 31,000 square feet of floor area and will be devoted to the production of the company's line of X-ray equipment. Klefsstad Engineering Company, general contractor.

• **Anchor Coupling Company**, Libertyville, is building an addition to its factory containing 16,000 square feet of floor area. Jenkins and Boller, general contractor, William T. Hopper, Jr., architect.

## Trends In Finance and Business

(Continued from page 11)

eight million cars yearly, this would require 300,000 tons of aluminum in 1960 and 800,000 tons in 1980.

Besides the automobile and canning industries, the report predicts that aluminum will be used to a much greater extent in the electrical industry (820,000 tons by 1960) and for irrigation pipes (100,000 tons by 1960, 300,000 tons by 1980).

According to the study, the free world produced 2.8 million tons of aluminum last year, of which 608,000 tons came from Canada and 1.6 million tons from the United States. Estimated free world capacity in 1960 is expected to be 4.5 million tons, one million tons in Canada and 2.3 million tons in the United States.

## Here, There and Everywhere

(Continued from page 8)

made of the new rubber are now giving service and mileage comparable to tires made wholly of tree rubber according to the company. Until this research achievement, truck tires required tree rubber to assure acceptable performance.

• **Sticky Subject** — The U. S. used more than 80 million fold-up metal

tubes of adhesives, glues, cements and pastes in 1955, the Collapsible Tube Manufacturers Council reports.

• **Air Conditioning Boom** — The nation has entered the year of the great breakthrough in central air conditioning of residences with sales now beginning to affect large sections of the American public, predicts Cloud Wampler, chairman of Carrier Corporation. Central comfort system installations in homes will increase to about 200,000 units for the year or about one for every

six homes constructed. By 1960 central comfort systems will be installed in well over a half million homes annually. By 1965 this will have increased to 1,150,000 a year, according to Mr. Wampler.

• **Machine Tools** — January, 1956, shipments of metal cutting machine tools by the machine tool industry amounted to \$56,750,000, an increase of 14.6 per cent over January, 1955, shipments. New orders received amounted to \$118,050,000 and increased the backlog of unfilled orders to approximately 8.5 months.

## What's Ahead In Next Ten Years?

(Continued from page 28)

new institution of bank credit. All of these conditions have been slowly changing with the passage of time and the accumulation of experience.

Furthermore, today there is an increasing number of expenditures which are not at all sensitive to the cyclical ups and downs of business and which, in consequence, are a stabilizing influence. The most important forms of such expenditures

are those of the government itself. These are far more important than ever before, and they are very little influenced by cyclical movements. The growth of long-range planning in industry diminishes the sensitivity of business spending to cyclical ups and downs. Some important forms of welfare expenditures, such as unemployment compensation,

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have definitely anti-cyclical movements, tending to rise when other expenditures fall and fall when other expenditures rise.

In addition, the large payments under the old-age and survivors insurance scheme show no cyclical movement, except perhaps a small tendency to rise in business recessions. It is estimated that payments under the old age and survivors insurance scheme will grow from about \$5 billion in 1955 to around \$9.5 billion by 1965 — a somewhat faster increase than the prospective growth of all outlays in the economy. This growth assumes no liberalization in the old-age and survivors scheme between now and 1965. Finally, consumption expenditures in general tend to be stabilized by the growth in the number of families that ordinarily have two or more income earners. For some time the growth in the labor force and in employment has been exceeding the increase in the number of families.

Between April, 1949, and April, 1955, for example, the number of families increased by about 3.3 million, but the labor force grew by about 5.5 million. The increase in the number of two or more earner families has broad economic significance, but certainly one of the most important results is to diminish the cyclical ups and downs of personal consumption spending.

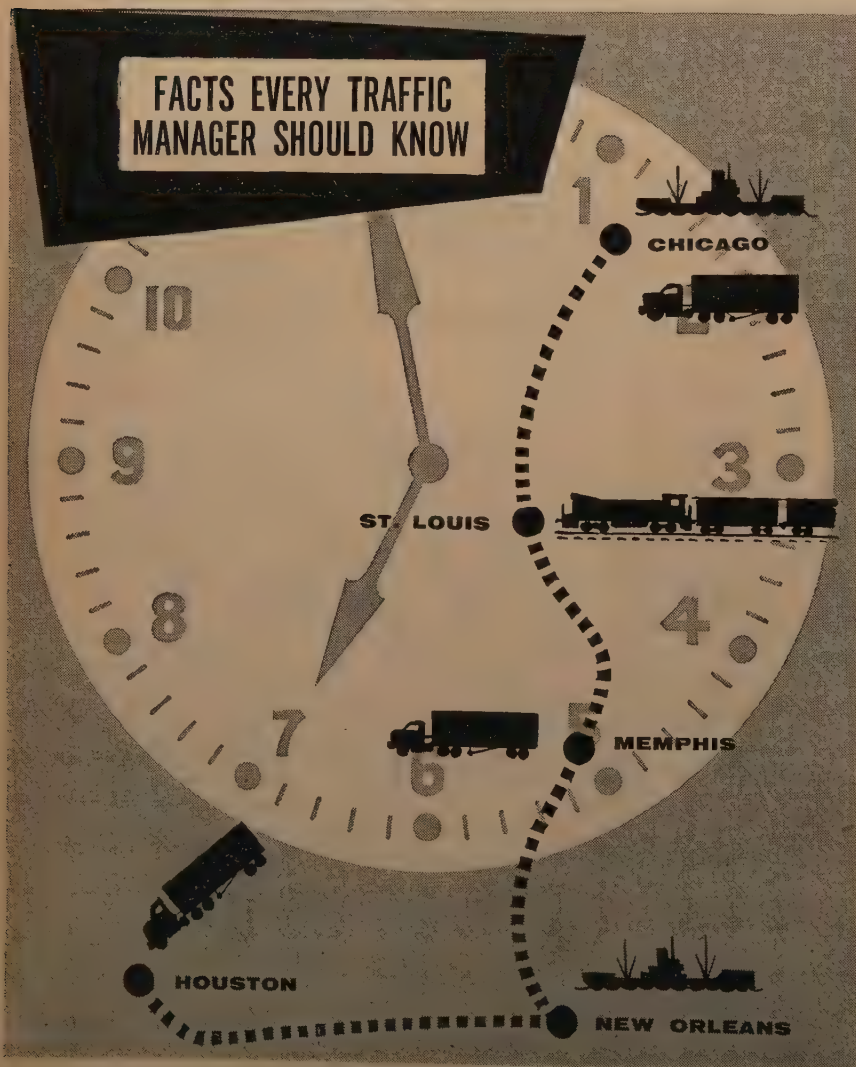
### *New Conditions*

It is obviously a world in which our ability to adapt ourselves to new conditions is becoming more and more important. From the standpoint of consumers the picture is on the whole a cheerful one. A rapidly growing abundance of goods is in prospect. But a growing abundance of goods raises important philosophical and moral issues. It creates the danger that we shall measure progress too much by material yardsticks, and develop bad scales on values.

For young people the underlying economic trends are cheerful. The demand for skills of various kinds is rapidly growing, and this means better and better opportunities for those who are entering industry. For business executives the world is becoming a more and more challenging one. Certainly, the executive's job is not becoming any easier. His opportunities to make mistakes seem to be growing, and the consequences of mistakes are always serious.

One of the most cheerful parts of the whole picture is that business executives are becoming better and better aware of their growing responsibilities and are taking steps, through the internal organization of enterprises and through the introduction of executive development programs, to meet the high responsibilities that are being thrust upon them by the technological revolution, the cold war, and the great changes in social conditions and economic institutions.

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# Transportation and Traffic



THE Interstate Commerce Commission, in its order in Ex Parte No. 196 released March 2, authorized a six per cent increase in freight rates and charges of railroads, freight forwarders and domestic water carriers. The increase, which became effective Wednesday, March 1, is subject to certain specified exceptions and maximums. The commission found that the straight seven per cent rate hike proposed by the carriers not just and reasonable but recognized that some increase was necessary to offset the increased operating expenses of the railroads amounting to more than \$500 million annually due principally to higher wages, taxes and costs of materials and supplies. Commodities on which exceptions or maximums were prescribed by the commission include canned or preserved food products, fresh fruits and vegetables, lumber, coal, grain and grain products, livestock, sugar, salt, meats and packing house products.

**Regulated Carriers Show Revenue Gain of 9.5 Per Cent for 1955:** The Interstate Commerce Commission's Bureau of Transport Economics and Statistics reports that preliminary estimates indicate the eight groups of carriers subject to Commission jurisdiction had operating revenues in 1955 totaling \$17,176,600,000, an increase of 9.5 per

cent over 1954. The table below shows the revenues for each of the eight classes of regulated carriers for the years 1955 and 1954 and the per cent of change.

• **C.A.C.I. Files Brief in Helicopter Service Case:** The Chicago Association of Commerce and Industry has filed a brief with the Civil Aeronautics Board in support of its exceptions to the initial decision of Examiner Joseph L. Fitzmaurice in Docket No. 6600, et al., the Chicago Area Service Case. The examiner's decision recommended that helicopter passenger, mail and property service be authorized between Chicago's two major airports and the central business district of the city. The examiner concluded, however, that authorization for service from and to suburban communities within the Chicago area should be in the form of an area exemption revocable without notice. The C.A.C.I.'s brief points out that it is "unreasonable to expect the suburban communities to incur substantial expense for adequate heliports where the only authority for the service to be provided is an area exemption under which the carrier is at liberty to discontinue its service and the board can revoke the entire authorization without notice." The brief concludes that the board "should issue a certificate of public



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Class of Carrier	Preliminary Estimate 1955 (Millions)	Full Year 1954 (1) (Millions)	Percent of Change
Railroads .....	\$10,467.8	\$ 9,706.0	+ 7.8
Railway Express Agency .....	237.2	235.1	+ 0.9
Pullman Co. ....	93.7	100.2	- 6.4
Electric Railways .....	50.2	56.0	-10.4
Water Lines .....	411.3	354.2	+16.1
Pipe Lines (oil) .....	672.2	617.5	+ 8.9
Motor Carriers of Passengers .....	549.1	554.4	- 1.0
Motor Carriers of Property .....	5,436.1	4,737.1	+14.8
Total (2) .....	\$17,917.6	\$16,360.4	+ 9.5

(1) Partly estimated.

(2) Totals rounded after computation.



convenience and necessity authorizing service for passengers, property and mail over routes between Midway Airport and O'Hare Field, Chicago International Airport, and between those airports and the central business district of Chicago as recommended by the examiner and also over routes from and to principal suburban communities within the Chicago Metropolitan Area proposed to be served by Helicopter Air Service, Inc., and that the board should grant in addition thereto an exemption which will permit service to other points in the area which cannot be desig-

nated in advance for the purpose of flexibility."

• **Rock Island R.R. to Allow Seven Days Free Time on Export Freight at Chicago:** The Chicago, Rock Island and Pacific Railroad, which serves the Chicago Regional Port District, has served notice that it will file tariffs increasing to seven days the free time for unloading cars of export freight moving through the Port of Chicago. The move will place Chicago on a competitive basis with ports located on the Atlantic, Pacific and Gulf coasts. The present free time for

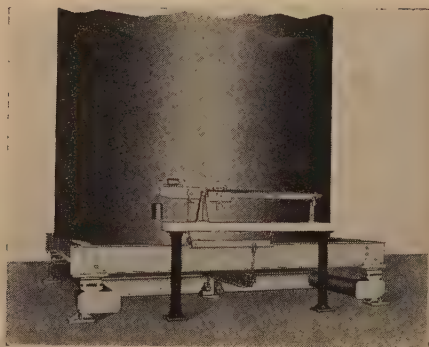
handling cars of export freight at Chicago and other Great Lakes ports is 48 hours—the same as is allowed on domestic traffic. The Chicago Association of Commerce and Industry has presented testimony before the various committees of railroads serving Chicago as to the importance of this city as a world port and the necessity and desirability of placing it on a basis competitive with salt water ports. Reportedly, other railroads serving the Port of Chicago will follow the action taken by the Rock Island.

• **C.A.B. Allows Reduced Air Freight Rates:** The Civil Aeronautics Board has authorized reduced rates on "deferred air freight" for a one year trial period. The reduced rates are 55 per cent of the previously prescribed minimum on eastbound and northbound movements and 65 per cent on all other movements. "Deferred air freight" is defined as freight received for transportation on a space available basis after accommodation of all other revenue traffic. The authorization is conditioned by the requirement that the carriers shall not release property received for deferred service prior to the fourth day after receipt when the distance from origin to destination airport is 2,100 miles or more or prior to the third day when the distance is less than 2,100 miles.

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## Handwriting

(Continued from page 17)

and the Philadelphia chamber of commerce.

Director Wesley E. Scott calls this course "an economic necessity." He cites a recent error of an inventory clerk for the Minneapolis-Honeywell Regulator Company who wrote an "8" that looked like a "3." The loss, \$65,000 in inventory undervaluation and two extra weeks of inventory time to find the mistake. One result: A three-month handwriting program for employees at 40-minute sessions each week.

The State Street Council in August of 1954 called together its members' personnel representatives to tackle the problem of billing, collection and delivery errors. Out of that session grew a training program for department store employees.

A woman telephoning an order



a red cap Size 6 for her young was getting a bed lamp. Another, phoning for sleepers with grippers, is delivered slippers with zippers.

And you try figuring out what varieties of the order clerk's pencil bought a blue lace slip, Size 14 to 77-year-old, 220-pound woman who ordered a sponge rubber seat cushion.

Maldens Inc., mail order house in Chicago, reports: "Illegibility on sales slips and other records is a big problem in a business such as ours, especially with the younger clerks. Many of them simply do not know how to write. The best we have been able to do is gauge writing ability on application blanks as a guide in placement."

This is a problem in which the functions of business and education meet at a cross-twine.

### Drastic Action

Two years ago a business advisory committee comprising 15 office managers from Chicago firms decided that poor penmanship of clerks and stenographers called for drastic action at Jones Commercial high school, which graduates 225 young people a year at the public high school level.

So, twice a week there was handwriting instruction on the Kittle system. But these sessions were crowded out other subjects, and now the class is disbanded.

Says Clarence Carey, director of Jones Commercial: "Many of the students cannot write legible telephone messages and memos. There just is not enough handwriting instruction and practice at the high school level. There is so much emphasis on use of the typewriter and on multiple choice questions in tests that requiring writing for expression."

This viewpoint is shared by Enoch Perry, director of business schools (like Jones Commercial) for the board of education. He says: "People just do not regard handwriting as important."

Perry is prepared to organize a special school for business representatives—possibly on the pattern of Philadelphia's—if there is sufficient demand. The Union Tank Car Company only last month (March 1) asked the board of education if it already had such a course.

And what is sufficient demand? "Twenty students is enough to make a business handwriting class worth while," says Perry. "It would seem that ten times that number easily could enroll from Chicago business and industry when the executives recognize that wherever the need exists for going back to school to relearn handwriting at an adult age, then it is an economic need."

More handwriting instruction and practice is going on now in Chicago public elementary schools than at any time in the history of the system, according to Miss Mary Lusson, in charge of curricula. But she acknowledges there is a lack of good penmanship training in the high schools, and is recommending handwriting emphasis in all high school English classes.

In teacher training, however, the Chicago public school system stands high among the nation's cities in recognition of the penmanship problem. Chicago Teachers College several years ago established a handwriting course for budding teachers, at the urging of business leaders.

Elsewhere in the United States the

situation is becoming worse instead of better. Miss Kittle says: "The young teachers these days simply do not know how to write. How can we expect them to teach children penmanship?" And in a thesis entitled "Heresy In Handwriting," Dr. Luella Cole, former professor of educational psychology at the University of Indiana, lashes out with: "Handwriting is one of the most neglected, worst taught and least understood of all school subjects."

### High School Survey

A Massachusetts high school survey shows that only one per cent of the high schools in that state teach handwriting.

On the other hand some schools, like one in Briarcliff Manor in New York, have gone overboard on the Kittle type of speedy and clear print-writing (manuscript)—with the result that no cursive writing at all was being taught there. The community rose up in arms as children were unable to read letters from friends and relatives elsewhere. One young

(Continued on page 39)

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## **Fan Clutch**

The cooling fan used on automobiles and other internal combustion engines is needed only part of the time, but it continues to use horsepower and fuel even when cooling is not required. Warner Electric Crank & Clutch Co., Beloit, Wis., has developed an electric clutch unit for such fans, with a thermostatic switch. Applications, in addition to automobiles, include trucks and buses, tractors and farm implements, construction equipment, marine and amphibious vehicles, and portable power units. The company estimates that 8 to 12 horsepower are required to drive the fan on a passenger automobile. Tests have indicated that when the outside temperature is below 50 degrees, the fan is not needed even for slow city driving. In addition to fuel saving, advantages claimed for the fan clutch include quieter operation with the fan off, reduction of sludging in engine oil, faster warm-up, improved over-all engine performance, and longer engine life.

## **Power Saw**

Mall Tool Company is marketing a new, high-speed saw designed for abrasive wheels. It is built for continuous operation and thrives on hard surface cutting jobs such as steel, stone, terrazzo, non-ferrous metal, concrete and compositions, the company states. The product is called the model 192 saw. The company is located at 7725 South Chicago Avenue, Chicago 19, Ill.

## **Punched Card Stencils**

The Weber Marking Systems Division of Weber Addressing Machine Co. Inc., Mount Prospect, Ill., has developed two types of master addressing stencils which can be integrated with punched-card paperwork procedures. Thus, companies that prepare their invoice, bill-of-lading or shipping forms on punched-card automatic tabulating equipment can now also cut a master stencil in the same operation for

addressing shipping cartons, labels or tags.

## **Internal Communications**

Private Tele-Communications Inc., 1523 W. Fullerton avenue, Chicago 14, Illinois, has announced the development of a new type of business communication system utilizing phone type instruments, loudspeakers, and amplification. To call someone, the nearest handset is lifted, the "page" button right on the handset is pressed while the name of the wanted party is spoken into the handset. The call comes out of all the loudspeakers. The called party hears the call and lifts the nearest handset. The two parties can immediately converse. According to the company the system contains all of the desirable features of paging systems, amplified voice intercom systems and internal phone systems while avoiding the limitations and disadvantages inherent in these types.

## **Screw Anchor**

Plastic screw anchors made of all-weather plastic, for use in all masonry materials, are being introduced by Holub Industries, Inc., Sycamore, Ill. A kit containing 100 screw anchors, 100 sheet metal screws, and a 3/16" carbide tipped masonry drill, is priced at \$2.95.

## **Adhesive**

A structural metal bonding adhesive called Resiweld, developed by the H. B. Fuller Company, will permanently bond aluminum, steel, zinc, copper, brass, iron, glass, wood, rubber, and plastic surfaces to themselves and to each other. The bonds are said to combine high structural strength with excellent impact resistance. A trial kit for testing purposes is available for \$1. The company's address is 181 W. Kellogg Boulevard, St. Paul 2, Minn.

## **Handie-Talkie**

Recent advances in transistor-plated circuitry and lightweight



ing-life power packs, are incorporated in a new line of portable, two-way radiophones manufactured by Motorola's Communications and Electronics Division, 4545 W. Augusta Boulevard Chicago. Besides greater power, the new models have been reduced in size and weight as much as 50 per cent.

#### Magnifier

A tool that combines a magnetic base for steady positioning, a shielded electric light bulb for illumination, and an adjustable 5-X power magnifier two inches in diameter, has been introduced by Enco Manufacturing Company, 4520 W. Fullerton Avenue, Chicago 39, Ill. The price of the complete unit is \$15.75.

#### Pre-Bilt Belt Conveyors

Link-Belt Company, 307 N. Michigan Avenue, Chicago 1, Illinois, has introduced a new line of Pre-Bilt sectional belt conveyors in standard-sized units which may be disassembled readily on one location and reassembled on another.

#### Color Television

(Continued from page 15)

About ten hours of daily TV performances in color to watch on the one station, more than the equivalent of the weekly color fare offered by all of the Chicago outlets combined only last month.

The conversion of WNBQ from black and white telecasting to color is part of the \$70 million investment made to date by the Radio Corporation of America, owners of NBC, to produce and merchandise color television. The conversion and expansion of NBC facilities in the Merchandise Mart will cost about \$1.3 million. RCA officials believe the Chicago move will give the industry the impetus to "break through the black and white curtain."

So-called educated guessers say there are now 35,000 to 50,000 colored TV sets in operation across the nation. Somewhere around 15 per cent of these are in the Chicago area. RCA, with several color assembly lines already geared to "a set a minute" production, expects to make and sell 200,000 colored receivers this year, about two-thirds

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of the 1956 volume predicted for the industry.

Why did RCA and NBC select WNBQ in Chicago to become the first all-color television station? According to Jules Herbuveaux, NBC vice president and general manager of WNBQ, the decision was based on experience and research which showed that Chicago, the nation's number two television market, is the country's key market. Also, as Brig. General David Sarnoff, RCA chairman, has stated, "Chicago has always been a key city in the operations of NBC and the radio and television industry generally."

### No Rate Boost

For the sponsors of the black and white shows that will appear in color this month, there will be no additional outlays of cash for use of station time and equipment. Some additional expenses in props and background materials may be incurred by some sponsors who make special changes to take full advantage of the "colorcasting." The millions of black and white TV sets in the area will continue to receive the color programs in black and white.

Major changes required in the conversion to all color at WNBQ are taking place on the 19th and 20th floors of the Merchandise Mart. The station will have five color cameras with associated control equipment, a new color video control center and two color film projector chains for 16mm and 35mm film and slides.

Black-and-white studios A and B, separate but adjoining, have been made into one large color studio with close to 5,000 square feet of floor space by the means of a large connecting corridor, through which cameras, sets and personnel can move from one end to the other. Studio E, WNBQ's third large TV studio, also is being converted to color operations and a fourth color studio will be available for single camera color shows.

The color video control center housing the complex technical equipment for color will occupy a large area which previously housed radio master control. It is located midway between and adjoining Studios A, B, and E. Each of the color cameras in use will transmit their pictures to this control center

which will have a receiver in each of the three primary colors, red, blue and yellow for each camera. (A black and white control room requires only one receiving set per camera.)

Color telecasting requires 30 per cent more lighting than the present black and white. This means hotter studios and more air conditioning facilities. In all, the conversion at NBC is taking more than a half million feet of additional wiring.

Conversion to color also requires additional "know-how" on the part of station personnel. To take care of this, color training sessions were conducted for scenic artists, production staffers, engineers and the station's talent. New sets were designed and tested before color cameras with new emphasis placed on color qualities, design and lighting.

Properties, things like furniture, interior furnishings and even pictures on the walls of sets, were tested for color. A regular series of "color symposiums" has been conducted for the commercial clients, giving them the opportunity to test products and packages before color cameras.

### Visitors Welcome

So that Chicagoans and visitors to the city can see color television in action, an RCA-NBC exhibit area is being established on the 20th floor of the Mart in the present lobby area. Color receivers will be operating at all times and even when WNBQ is carrying a black and white network program, a special closed-circuit color demonstration will be fed from the WNBQ studios to house receivers. A wide corridor overlooking studios A and B will enable visitors to look down on studio operations below.

Many other promotional stunts in the Chicago area are expected to help make the city "color conscious." There will be airplanes sky writing in color and color sets located throughout the city in stores and banks and other spots frequented by potential TV buyers.

Says a Radio Corporation executive, "The results of these Chicago color programs will be felt throughout the television world. Stations, advertisers, and viewers all over the country will have their eyes on Chicago and they will soon follow Chicago's lead and produce an ever-



mounting number of local programs in color. Consumers will buy more and more color sets. And more and more manufacturers will sponsor more and more color programs and all more and more merchandise."

As the largest center of electronic production in the nation and the headquarters of three of the leading TV receiver manufacturers and the heart of the component parts manufacturing industry, the Chicago area has an enormous stake in the success of this new drive to sell color television.

## Handwriting

(Continued from page 35)

man was barred from opening a checking account because a bank would not accept his printed signature.

Early in 1954 School Superintendent Ernest Caverly of Brookline, Mass., was forced to resign because the community objected to the teaching of manuscript writing beyond the third grade. Most elementary schools in the nation are teaching regular writing by that grade level.

One teachers association reports the case of a third grader, not eager to write, who dashed off this line one morning: "See the cat slip on the walk." That's what he had in mind—although everybody else in the room agreed that it seemed to read: "See the catsup on the wall."

Most poor writers who don't catch their p's and q's also fail to cross t's, close o's and dot i's. When they're not confusing "o" and "a" they are making u's look like v's, and vice versa. Numbers confusion is greatest between 1 and 7, and among 5 and 8.

Handwriting in business is most important for bookkeeping, accounting, tellers, cashiers and secretaries.

Handwriting Foundation survey shows that 88 per cent of responding personnel directors regarded handwriting as an important factor in hiring employes. Thirty-eight per cent rated it as of "great value." Twenty-nine per cent said that handwriting was used as a standard for job advancement.

A survey of 850 secretaries by the Poma Pencil company brought out what they think about their boss' handwriting. One secretary replied: "My boss writes like an Egyptian." Two out of every five survey replies

listed executive penmanship anywhere from "hard to read" to "down-right impossible."

Rated worst of all in that survey was handwriting of aviation executives. Best were building executives and educators.

Doctors got a poor mark in the survey, which was made just about the time police in Yonkers, N. Y., early last year arrested a musician for forging a narcotics prescription. Druggist William Astmann tripped up the culprit because—as he told police later: "That prescription was too clear to have been written by a doctor."

Two stories about the atrocious

handwriting of traditionally long-educated physicians still make the rounds of medical conventions. Both are about a spider climbing out of an inkwell and walking across the doctor's prescription pad. One version is that a nurse took the sheet to a drug store in belief that the ink tracks were a prescription. The sharp-eyed pharmacist telephoned an hour later and said: "Doc, you just gotta tell me that last word."

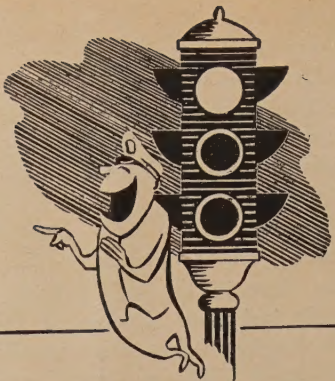
The other version of the story (you can take your choice) is that the "prescription" was filled, was given with success to a patient, and from then on the spider was on the doctor's payroll.

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# Stop me...If...



"John! Wake up! A burglar is going through your pockets."

"Well, fight it out between you."

Wife to husband: "Of course I spend more than you make, dear! I have great confidence in you."

Boss: "And how long have you been working here?"

Clerk: "Ever since I heard you coming down the hall."

The collection department of a finance company tried a new method on a slow-paying account.

"Dear Mrs. Jones," the letter began. "What would all your neighbors think if we came to your town and repossessed your car?"

In time the letter came back with a message scrawled at the bottom. "I have taken this matter up with my neighbors," it said, "and they think it would be a lousy trick."

The dilapidated old car wheezed up to the toll gate at the Sunshine Bridge out of St. Petersburg, Fla.

"One dollar and seventy-five cents," said the attendant.

"Sold," answered the driver wearily.

The boy was practicing his violin lesson in the house, while out on the porch his younger sister was playing with the dog. As the boy scraped away on his fiddle, the hound howled dismally. The sister stood it as long as she could, then she poked her head in the open window and said:

"For goodness sake, Jimmy, can't you play something the dog doesn't know?"

An elderly couple had been sitting in front of the evening fire a long time without speaking. At last the husband inquired, "What are you thinking about?"

To which the wife replied—"I was just thinking how long we had lived together and that it couldn't go on forever like this and that the time will soon come when one of us will have to go."

"Yes," assented the old man, "but it is no use to worry about that now, Mother."

"No," was the calm reply, "but I was just thinking that when it does happen, I would like to go to California to live."

Neighbor—"Gracious, Mrs. Jones, what did you do when Bobbie swallowed the half-dollar?"

Mrs. Jones—"Oh, it wasn't serious—my husband held him up by the heels and shook him and out it came. You know he works for the Internal Revenue Bureau."

Employee—"May I have the afternoon off to go shopping with my wife?"

Boss—"No."

Employee—"Thanks ever so much."

A middle-aged playboy suddenly dropped dead one night in a small nightclub on New York's East Side. He had been living it up. The coroner called to the scene examined the formally-attired body, then questioned members of his party. He was told name, age, address, etc. Then he asked the religion of the deceased.

"He was an Atheist," someone supplied.

The doctor looked down again at the white tie and tails. "What a pity," he drawled. "All dressed up and no place to go."

A young mother finally tucked her small son into bed after an unusually trying day. That's when she sighed, "Well, I've certainly worked from son-up to son-down."

A wife is a woman who sticks with her husband through all the trouble he wouldn't have if he hadn't married her.

Maybe it's the calendar that needs trimming. So many people now have too much month at the end of their money.

The inmate had his ear pressed against the wall.

"Listen!" he whispered.

The new attendant listened intently, then finally confessed: "I don't hear a thing."

"I know," the inmate said darkly. "It's been like that all day."

Traffic cop—"What's your name?"

Truck driver—"It's on the side of my truck!"

Traffic cop—"It's obliterated."

Truck driver—"Yer crazy. It's O'Brien."

The father played possum while his youngsters tried their best to rouse him from a Sunday afternoon nap to take them for a promised walk. Finally, his five-year-old daughter pried open one of his eyelids, peered carefully, then reported: "He's still in there."

"My wife had a dream last night and thought she was married to a millionaire. You're lucky! My wife thinks that in the daytime."

Policeman (after the collision)—"You saw this lady driving toward you. Why didn't you give her half of the road?"

Motorist—"I was going to—as soon as I discovered which half she wanted."

A golfing clergyman had been beaten badly by a parishioner, 30 years his senior. He returned to the clubhouse rather disgruntled.

"Cheer up," his opponent said. "Remember, you win at the finish. You'll probably be burying me someday."

"Yes, but even then," said the preacher, "it will be your hole."

"How is that second-hand car you bought?"

"I've just realized how hard it is to drive a bargain."



"Matter of fact, sir, I have my resignation right with me."